

Errata for “Mathematical Logic and Computation”

The line counts ignore displayed equations and “1 - n ” means “line n from the bottom of the page.”

p 172 Definition 7.2.3

The definition violates stipulation established in Section 1.6 that the value of a function defined on the set of the formulas cannot depend on the choice of bound variable. Fix that by allowing arbitrary substitutions for the bound variable, as in Definition 6.1.3.

p 179 Exercise 7.3.3

Clarification: you only need to consider the case where $A \rightarrow B$ is in Γ .

p 215 l 6 “in natural deduction”

Clarification: in a natural deduction system, the substitution rule should be formulated as “from $\Gamma \vdash A$ conclude $\Gamma[t/x] \vdash A[t/x]$.” In other words, the term t should be substituted for x in both the set of hypotheses and the conclusion.

p 218 Proposition 9.1.6

$A(x, 0)$ should be $A(0, y)$.

p 220 l -4

“when we” should be “we.”

p 244 l -8

Δ_1 should be Δ_n .

p 284 Exercise 11.2.1

In both parts, f_x should be φ_x .

p 286 l -2

“ $x \in A$ if $f(x) \in B$ ” should be “ $x \in A$ if and only if $f(x) \in B$.”

p 290 l 10

“not not” should be “not.”

p 292 l 11

“the map $x \mapsto (x, e)$ ” should be “the map $x \mapsto (e, x)$.”

p 304 Lemma 11.7.4

The lemma should read: if $s \Rightarrow t$, then $t \Rightarrow s^*$.

p 353 l -5

In the itemized list, the clauses “if $s \rightarrow_{\beta,1} t$ then $(s, u) \rightarrow_{\beta,1} (t, u)$ ” and “if $s \rightarrow_{\beta,1} t$ then $(u, s) \rightarrow_{\beta,1} (u, t)$ ” should be added.

p 356 l 11

$C_j^{(i+3)}$ should be $C_j^{(i+2)}$.

p 377 1 2

Since we haven't established confluence yet, instead of saying "the length of the normal form of t ," we should say "the least upper bound on the length of all the normal forms of t ." König's lemma implies that there are only finitely many normal forms.

pp 402–405 Theorems 14.5.1, 14.5.2, and 14.5.3 and Corollaries 14.5.5 and 14.5.7

The phrase "tuple of terms \vec{t} such that ..." should be replaced by "tuple of terms \vec{t} such that \vec{y} is not free in \vec{t} and ..."