Corrigendum

Termination of Rewriting

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(1) The last line on page 78 should read:

\[ \tau(\alpha + \beta) = 2\tau(\alpha) + \tau(\beta) + 1 \quad \tau(1) = 2. \]

(2) The second sentence on page 80 should read:

The polynomial

\[ x^2 + y^2 + 2xy - x^2 - y^2 - x - 2y - c \]

(with \( x \) for \( \tau(\alpha) \), \( y \) for \( \tau(\beta) \), and \( c \) for \( \tau(2) \)) is no less than

\[ 2xy - 2x - 2y \]

(assuming that \( x \geq c \)). The latter is eventually positive, since its two derivatives, \( 2y - 2 \) and \( 2x - 2 \), are.

In general, the test for eventually positive polynomials (Lankford, 1976) only helps when there are no constants in the polynomial (Lescanne, 1987).

(3) After the second sentence of section 4 (page 80), the following should have been stated explicitly:

(Actually, an ordering over fixed-arity terms is "well-founded for derivations" if, and only if, it is well-founded over terms constructed from a finite number of function symbols.)
(4) Theorem 9 (page 82) should read:

THEOREM 9 (Dershowitz, 1982a). Any total monotonic ordering on fixed-arity terms is well-founded for derivations if, and only if, it is a simplification ordering.

The essence of the "only-if" direction appears in Plaisted (1978a).

(5) The fifth sentence of the example on page 91 should read:

Whichever sequence becomes a proper subsequence of the other (or becomes smaller than a subsequence of the other) is smaller.

(6) Definition 25 (page 110) as stated (adapted from Dershowitz, 1981) does not work (Purdom, 1987). Instead, it should read:

DEFINITION 25 (Purdom, 1987). A derivation $t_1 \Rightarrow t_2 \Rightarrow \cdots \Rightarrow t_l \Rightarrow \cdots \Rightarrow t_k \Rightarrow \cdots$ loops if some instance of $t_k$ has a subterm that is the same as a less or equally general instance of $t_l$ for some $j < k$.

References


