Errata to
“Descriptive Typing Rules for Xcerpt”

October 16, 2007

Abstract

This is errata to the paper

and to its extended version

• Definition 8 (p. 91 in [1]), in the fourth case (for \( \{q_1, \ldots, q_n\} \)) it should be \( j = 1, \ldots, n \) instead of \( j = 1, \ldots, m \).

• The head of second query rule of Ex. 15 (p. 93 l. –4 in [1]) is

\[
\text{results[all result[cds[all name[TITLE]], year[YEAR]]]} \leftarrow
\]

Should be

\[
\text{results[all result[year[YEAR], cds[all name[TITLE]]]]} \leftarrow
\]

• Relation \( \sqsubseteq \) in Section 4.2 (p. 95 of [1], the last paragraph of 4.2) is not a partial order but a pre-order. In the same paragraph, a condition “provided that \([\Gamma(X)] \neq \emptyset \) for each \( X \in V \)” should be added to the statement “\( \Gamma \sqsubseteq \Gamma' \) is equivalent to \( \text{substitutions}(\Gamma) \subseteq \text{substitutions}(\Gamma') \)”.

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• Section 4.3 of [1], paragraph 1, l. −1 (p. 95) states: “In the Appendix we prove correctness of the typing system.” Actually the proof is presented in [2].

• Definitions 17, l. 2 and 18, l. 5 ([1] p. 97) should be augmented with a requirement that $\text{substitutions}(\Gamma) \neq \emptyset$.

To the last sentence of the paragraph following Def. 17 (“For correctness of the rules it is required. . .”) a phrase “and that $\text{substitutions}(\Gamma) \neq \emptyset$ for any $\Gamma \in \Psi$” should be added.

• In rule (\text{Pattern}) for construct terms ([1] p. 97), when $\alpha\beta = \emptyset$, the regular expression $S_1 \cdots S_n$ may be not a multiplicity list. In such a case $S_1 \cdots S_n$ should be replaced by some multiplicity list $r$ such that $L(S_1 \cdots S_n) \subseteq \text{perm}(L(r))$, where $\text{perm}(L(r))$ stands for the language of permutations of the strings from the language $L(r)$.

• Theorem 20 ([1] p. 98, in [2] additionally Lemma 27), a missing requirement on $D$:

For any type names $T_1, \ldots, T_n$ in $D$ there exists a type definition $D'$ such that $[T_1]_D \cap \ldots \cap [T_n]_D = [T]_D'$ for some type name $T$.

A sufficient condition for this requirement is that $D$ is proper, in the sense of references [4] or [13] of [1].

An alternative to requirement (1) is a modification of rule (\text{Var}) for construct terms ([1] p. 97), by changing each $[T_i] = [\Gamma_i(X)]$ into $[T_i] \supseteq [\Gamma_i(X)]$.


• It is not made explicit that our definition of a query (Def. 10, [1] p. 92) is simplified. We consider applying a query to a single data term, while in full Xcerpt it is applied to a set of data terms. Thus, for instance, a query $\text{and}(Q_1, Q_2)$ may succeed due to $Q_1$ matching one data term and $Q_2$ matching another.