ERRATA

• Page 15: The definition of composition is incorrect since e.g. the composition of \( \{X/a\} \) with itself results in \( \epsilon \) according to definition 1.20. The definition should be as follows:

Let \( \theta \) and \( \sigma \) be the substitutions

\[
\theta := \{X_1/s_1, \ldots, X_m/s_m\},
\]
\[
\sigma := \{Y_1/t_1, \ldots, Y_n/t_n\}.
\]

The composition \( \theta \sigma \) of \( \theta \) and \( \sigma \) is obtained by taking the union of

\[
\{X_1/s_1\sigma, \ldots, X_m/s_m\sigma\} \text{ and } \{Y_1/t_1, \ldots, Y_n/t_n\}
\]

after removing all \( X_i/s_i\sigma \) such that \( X_i = s_i\sigma \), and all \( Y_i/t_i \) such that \( Y_i \in Dom(\theta) \).

(Pointed out by Włodek Drabent.)

• Page 26: To the last statement on the page a requirement should be added that \( A \) is ground or there are infinitely many constants in the alphabet.

(Pointed out by Włodek Drabent.)

• Page 96: All occurrences of \( t' \) should be replaced by \( n \).

• Page 236: The claim that naive\((\text{magic}(P))\) terminates whenever naive\((P)\) terminates is wrong! For instance, let \( P \) be:

\[
p(X) \leftarrow p(s(X)).
\]

• Solution 7.12: A correct(?) answer is:

\[
\text{msort([],[]).}
\]
\[
\text{msort([X],[X]).}
\]
\[
\text{msort([X,Y|Xs], Ys) :-}
\]
\[
\text{split(Xs,Split1,Split2),}
\]
\[
\text{msort([X|Split1],Sorted1),}
\]
\[
\text{msort([Y|Split2],Sorted2),}
\]
\[
\text{merge(Sorted1,Sorted2,Ys).}
\]

\[
\text{split([],[],[]).}
\]
\[
\text{split([X|Y],[X|V],W) :-}
\]
\[
\text{split(Y,W,V).}
\]
\[
\text{merge([], [], []).}
\]
\[
\text{merge([X|Xs], [X|Xs]).}
\]
\[
\text{merge([X|Xs], [], [X|Xs]).}
\]

1
merge([X|Xs], [Y|Ys], [X|Zs]) :-
    X < Y,
    merge(Xs, [Y|Ys], Zs).
merge([X|Xs], [Y|Ys], [Y|Zs]) :-
    X >= Y,
    merge([X|Xs], Ys, Zs).

(Error pointed out by Jørgen Fischer Nilsson and Morten Lindegaard.)

- **Page 166:** All occurrences of `prod_rule/1` should read `prod_rule/2`.
  (Pointed out by Jørgen Fischer Nilsson and Morten Lindegaard.)

- **Solution 6.5:** “≥” should read “≤”.
  (Pointed out by Jørgen Fischer Nilsson and Morten Lindegaard.)

- **Page 252:** The definition of a function is incorrect. Should read “...if whenever \( f(z, x) \) and \( f(z, y) \) then \( x = y \).”
  (Pointed out by Walter Vieira.)