

## 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

$$\begin{aligned}\theta &:= \{X_1/s_1, \dots, X_m/s_m\}, \\ \sigma &:= \{Y_1/t_1, \dots, Y_n/t_n\}.\end{aligned}$$

The *composition*  $\theta\sigma$  of  $\theta$  and  $\sigma$  is obtained by taking the union of

$$\{X_1/s_1\sigma, \dots, X_m/s_m\sigma\} \text{ and } \{Y_1/t_1, \dots, Y_n/t_n\}$$

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

(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  $\text{naive}(\text{magic}(P))$  terminates whenever  $\text{naive}(P)$  terminates is wrong! For instance, let  $P$  be:

$$p(X) \leftarrow p(s(X)).$$

- **Solution 7.12:** A correct(?) answer is:

```
m_sort([], []).
m_sort([X], [X]).
m_sort([X, Y|Xs], Ys) :-
    split(Xs, Split1, Split2),
    m_sort([X|Split1], Sorted1),
    m_sort([Y|Split2], Sorted2),
    merge(Sorted1, Sorted2, Ys).
```

```
split([], [], []).
split([X|Y], [X|V], W) :-
    split(Y, W, V).
```

```
merge([], [], []).
merge([], [X|Xs], [X|Xs]).
merge([X|Xs], [], [X|Xs]).
```

```
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:** “ $\geq$ ” should read “ $\leq$ ”.  
(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.)