Exercises.

7.0 Study Section 7.4–7.5.

7.1 Let $\succsim$ denote a preorder that contains $\sqsupset_{\mathsf{emb}}$ for some WPO $\sqsupset$. Show that the strict part $\succ$ of $\succsim$ is well-founded.

7.2 Use Theorem 7.5.5. to prove termination of the TRS from Exercise 7.28 a).

7.3 Use Theorem 7.4.10 and/or 7.5.5 to prove termination of the TRS from Exercise 7.22.

7.4 Show termination of the following TRS:

$$
\begin{aligned}
(x^{-1})^{-1} &\rightarrow x \\
(x + y)^{-1} &\rightarrow x^{-1} \times y^{-1} \\
(x \times y)^{-1} &\rightarrow x^{-1} + y^{-1} \\
x \times (y + z) &\rightarrow (x \times y) + (x \times z) \\
(y + z) \times z &\rightarrow (x \times y) + (x \times z)
\end{aligned}
$$