Introduction to Computational Logic, SS 2006: Hints for Assignment 2

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Exercise 2.3 (Choice Function)

c) $- = \lambda x \in \mathbb{N}.\, \lambda y \in \mathbb{N}.\, \mathbf{C}(\lambda z \in \mathbb{N}.\, x \doteq y + z)$

Exercise 2.4 (Normal Forms)

c)

$$\begin{aligned} \lambda xy.\, fxy &\equiv \lambda x.\, fx && (\eta) \\ &\equiv f && (\eta) \end{aligned}$$

Exercise 2.5 (Lambda Elimination)

b)

$$\begin{aligned} \lambda xyz.\, y &\equiv K(\lambda yz.\, y) && (\mathrm{K}) \\ &\equiv K(\lambda y.\, Ky) && (\mathrm{K}) \\ &\equiv KK && (\eta) \end{aligned}$$