

l15_cqc_the2

(TMc6LSsvWdRqbkRHBmdP3XoCc8h5ENBpwHx)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_cqc_lang : \iota \Rightarrow \iota$ be given. Let $v2_cqc_the1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow ((v2_cqc_the1\ (k8_cqc_lang\ X0\ X1\ (k8_cqc_lang \\ X0\ X1\ X2))\ X0) \Rightarrow (v2_cqc_the1\ (k8_cqc_lang\ X0\ X1\ X2)\ X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow ((v2_cqc_the1\ (k8_cqc_lang\ X0\ (k7_cqc_lang \\ X0\ X1\ X2)\ X3)\ X0) \Rightarrow (v2_cqc_the1\ (k8_cqc_lang\ X0\ X1\ (k8_cqc_lang\ X0 \\ X2\ X3))\ X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow ((v2_cqc_the1\ (k8_cqc_lang\ X0\ (k7_cqc_lang \\ X0\ X1\ X2)\ X1)\ X0) \wedge (v2_cqc_the1\ (k8_cqc_lang\ X0\ (k7_cqc_lang\ X0\ X1 \\ X2)\ X2)\ X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\ X0)\ (k3_cqc_lang\ X0)) \Rightarrow (k9_cqc_lang\ X0\ X1\ X2 = k8_cqc_lang\ X0\ (k6_cqc_lang \\ X0\ X1)\ X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\
& \quad X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\
& \quad X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X3.(m2_subset_1\ X3\ (k9_qc_lang1 \\
& \quad X0)\ (k3_cqc_lang\ X0)) \Rightarrow ((v2_cqc_the1\ (k8_cqc_lang\ X0\ X1\ X2)\ X0) \Rightarrow \\
& \quad (v2_cqc_the1\ (k8_cqc_lang\ X0\ (k9_cqc_lang\ X0\ X1\ X3)\ (k9_cqc_lang \\
& \quad \quad X0\ X2\ X3))\ X0))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ (k9_qc_lang1 \\
& \quad X0)\ (k3_cqc_lang\ X0)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ (k9_qc_lang1 \\
& \quad X0)\ (k3_cqc_lang\ X0)) \Rightarrow (v2_cqc_the1\ (k8_cqc_lang\ X0\ (k9_cqc_lang \\
& \quad X0\ X1\ X2)\ (k8_cqc_lang\ X0\ (k6_cqc_lang\ X0\ X1)\ X2))\ X0))
\end{aligned}$$