

t67_qc_lang2
(TMUDz1P_xjUKTEfwyMJ4doPFXiSttAHQHB94)

October 27, 2020

Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $r2_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_qc_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_qc_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow ((r2_qc_lang2 \\ X0 X1 X2) \Leftrightarrow (r3_qc_lang2 X0 X1 (k13_qc_lang1 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (k9_qc_lang1 X0)) \Rightarrow ((\neg(\neg(r3_qc_lang2 X0 X1 X2) \wedge \\ (r2_qc_lang2 X0 X2 X3)) \wedge (\neg(r2_qc_lang2 X0 X1 X2) \wedge (r3_qc_lang2 \\ X0 X2 X3)) \wedge (\neg(r2_qc_lang2 X0 X1 X2) \wedge (r1_qc_lang2 X0 X2 X3)) \wedge ((\\ \neg(r1_qc_lang2 X0 X1 X2) \wedge (r2_qc_lang2 X0 X2 X3)) \wedge (\neg(r3_qc_lang2 \\ X0 X1 X2) \wedge (r1_qc_lang2 X0 X2 X3)) \wedge (\neg(r1_qc_lang2 X0 X1 X2) \wedge (r3_qc_lang2 \\ X0 X2 X3)))))) \Rightarrow (r3_qc_lang2 X0 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ X1 (k9_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (r2_qc_lang2 \\ X0 X1 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 \\ X0))) \Rightarrow (m1_subset_1 (k13_qc_lang1 X0 X1) (k9_qc_lang1 X0)) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow ((r2_qc_lang2 \\ X0 (k13_qc_lang1 X0 X1) X2) \Rightarrow (r3_qc_lang2 X0 X1 X2)))) \end{aligned}$$