

t12_osalg_1
(TMLFypvca3B9iAH2fb48eY4XpG1NZofbt1q)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v4_osalg_1 : \iota \Rightarrow o$ be given. Let $v5_osalg_1 : \iota \Rightarrow o$ be given. Let $v8_osalg_1 : \iota \Rightarrow o$ be given. Let $l3_osalg_1 : \iota \Rightarrow o$ be given. Let $v6_osalg_1 : \iota \Rightarrow o$ be given. Let $v10_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_osalg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_osalg_1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_osalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_osalg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_osalg_1 \\ X0))) \Rightarrow ((v6_osalg_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 \\ X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 X0))) \Rightarrow ((r1_osalg_1 \\ X0 X1 X2) \Rightarrow (X1 = X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \wedge \\ ((m1_subset_1 X1 (k3_finseq_2 (u1_struct_0 X0))) \wedge (m1_subset_1 \\ X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (r2_osalg_1 X0 X1 X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 \\ X0) \wedge (l1_osalg_1 X0))) \wedge ((m1_subset_1 X1 (u4_struct_0 X0)) \wedge (m1_subset_1 \\ X2 (u4_struct_0 X0)))) \Rightarrow (r1_osalg_1 X0 X1 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l3_osalg_1 X0) \Rightarrow ((l1_osalg_1 X0) \wedge (l2_osalg_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_osalg_1 X0) \Rightarrow ((l1_msualg_1 X0) \wedge (l1_orders_2 X0)) \quad (6)$$

Assume the following.

$$\forall X0.m1_finseq_2 (k3_finseq_2 X0) X0 \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\ (l1_msualg_1 X0))) \wedge (m1_subset_1 X1 (u4_struct_0 X0))) \Rightarrow (m2_finseq_2 \\ (k1_msualg_1 X0 X1) (u1_struct_0 X0) (k3_finseq_2 (u1_struct_0 \\ X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\ X0)) \Rightarrow (\forall X3.(m2_finseq_2 X3 (u1_struct_0 X0) (k3_finseq_2 \\ (u1_struct_0 X0))) \Rightarrow ((r3_osalg_1 X0 X1 X2 X3) \Leftrightarrow ((r1_osalg_1 X0 X1 \\ X2) \wedge ((r2_osalg_1 X0 X3 (k1_msualg_1 X0 X2)) \wedge (\forall X4.(m1_subset_1 \\ X4 (u4_struct_0 X0)) \Rightarrow ((r1_osalg_1 X0 X1 X4) \wedge (r2_osalg_1 X0 X3 \\ (k1_msualg_1 X0 X4))))))))) \Rightarrow (r2_osalg_1 X0 (k1_msualg_1 X0 X2) (k1_msualg_1 \\ X0 X4)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge ((v8_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow \\ ((v10_osalg_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow \\ (v9_osalg_1 X1 X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u4_struct_0 X0)) \Rightarrow ((v9_osalg_1 X1 X0) \Leftrightarrow ((v7_osalg_1 X1 X0) \wedge \\ (\forall X2.(m2_finseq_2 X2 (u1_struct_0 X0) (k3_finseq_2 (u1_struct_0 \\ X0))) \Rightarrow (\neg (r2_osalg_1 X0 X2 (k1_msualg_1 X0 X1)) \wedge (\forall X3.(m1_subset_1 \\ X3 (u4_struct_0 X0)) \Rightarrow (\neg r3_osalg_1 X0 X1 X3 X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge ((v8_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow \\ (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (v7_osalg_1 X1 \\ X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l3_osalg_1 X0) \Rightarrow ((v4_osalg_1 X0) \Rightarrow ((v3_orders_2 X0) \wedge \\ ((v4_orders_2 X0) \wedge (v5_orders_2 X0)))) \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ X0) \wedge ((v5_osalg_1 X0) \wedge ((v8_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow \\ ((v6_osalg_1 X0) \Rightarrow (v10_osalg_1 X0)) \end{aligned}$$