

t9_stacks_1
(TMY8RgjR2Fshf1kHiPZh5ZbEZvE8J6Qfyw7)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v2_stacks_1 : \iota \Rightarrow o$ be given. Let $v3_stacks_1 : \iota \Rightarrow o$ be given. Let $v4_stacks_1 : \iota \Rightarrow o$ be given. Let $v5_stacks_1 : \iota \Rightarrow o$ be given. Let $v6_stacks_1 : \iota \Rightarrow o$ be given. Let $l1_stacks_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_stacks_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ 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 $l5_struct_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ & X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ & ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u4_struct_0 X0) \Rightarrow ((\neg r1_stacks_1 X0 X1) \Rightarrow (k9_stacks_1 X0 X1 = \\ & k1_stacks_1 (u1_struct_0 X0) (k12_finseq_1 (u1_struct_0 X0) (\\ & k6_stacks_1 X0 X1)) (k9_stacks_1 X0 (k5_stacks_1 X0 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow (k1_funct_1 (k7_finseq_1 (k9_finseq_1 X0) X1) np_1 = X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. k9_finseq_1 X0 = k5_finseq_1 X0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 X1 X0)\wedge(m1_finseq_1 X2 X0))\Rightarrow(k1_stacks_1 X0 X1 X2 = k7_finseq_1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow(k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (9)$$

Assume the following.

$$\forall X0.(l5_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(l1_stacks_1 X0)\Rightarrow(l5_struct_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge \\ &((v2_stacks_1 X0)\wedge((v3_stacks_1 X0)\wedge((v4_stacks_1 X0)\wedge((v5_stacks_1 \\ &X0)\wedge((v6_stacks_1 X0)\wedge(l1_stacks_1 X0))))))\wedge(m1_subset_1 \\ &X1 (u4_struct_0 X0))\Rightarrow(m2_finseq_2 (k9_stacks_1 X0 X1) (u1_struct_0 \\ &X0) (k3_finseq_2 (u1_struct_0 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v11_struct_0 X0)\wedge(l1_stacks_1 X0))\wedge(m1_subset_1 X1 (u4_struct_0 X0))\Rightarrow(m1_subset_1 (k6_stacks_1 X0 X1) (u1_struct_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v11_struct_0 X0)\wedge(l1_stacks_1 X0))\wedge(m1_subset_1 X1 (u4_struct_0 X0))\Rightarrow(m1_subset_1 (k5_stacks_1 X0 X1) (u4_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.m1_finseq_2 (k3_finseq_2 X0) X0 \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((\neg v11_struct_0 X0)\wedge((v2_stacks_1 \\ & X0)\wedge((v3_stacks_1 X0)\wedge((v4_stacks_1 X0)\wedge((v5_stacks_1 X0)\wedge \\ & ((v6_stacks_1 X0)\wedge(l1_stacks_1 X0))))))))\Rightarrow(\forall X1.(m1_subset_1 \\ & X1 (u4_struct_0 X0))\Rightarrow((\neg r1_stacks_1 X0 X1)\Rightarrow(k6_stacks_1 X0 X1 = \\ & k1_funct_1 (k9_stacks_1 X0 X1) np_1))) \end{aligned}$$