

t41_stacks_1

(TMZ4VEwCy4wnWnpT3f6BtY5ZbfEerYaPMxp)

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 $k14_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k9_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_stacks_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_stacks_1 : \iota \Rightarrow o$ be given. Let $k8_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u2_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k3_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k2_filter_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $m1_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_stacks_1 : \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $g1_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ & X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ & ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u4_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (k9_stacks_1 X0 (k7_stacks_1 X0 X1 X2) = k1_stacks_1 (u1_struct_0 \\ & X0) (k12_finseq_1 (u1_struct_0 X0) X2) (k9_stacks_1 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ & X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ & ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u4_struct_0 X0)) \Rightarrow ((r1_stacks_1 X0 X1) \Rightarrow (k9_stacks_1 X0 X1 = \\ & k1_xboole_0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u4_struct_0 (k14_stacks_1 \\
& X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k14_stacks_1 \\
& X0))) \Rightarrow (((X3 = k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 X0) (k10_stacks_1 \\
& X0) X1) \wedge (X4 = X2)) \Rightarrow ((k7_stacks_1 X0 X1 X2 \in k7_stacks_1 (k14_stacks_1 \\
& X0) X3 X4) \wedge (k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 X0) (k10_stacks_1 \\
& X0) (k7_stacks_1 X0 X1 X2) = k7_stacks_1 (k14_stacks_1 X0) X3 X4))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\
& (k14_stacks_1 X0))) \Rightarrow ((X2 = k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 \\
& X0) (k10_stacks_1 X0) X1) \Rightarrow ((r1_stacks_1 X0 X1) \Leftrightarrow (r1_stacks_1 (\\
& k14_stacks_1 X0) X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u4_struct_0 X0)) \Rightarrow (m1_subset_1 (k6_eqrel_1 (u4_struct_0 X0) \\
& (u4_struct_0 X0) (k10_stacks_1 X0) X1) (u4_struct_0 (k14_stacks_1 \\
& X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0 : \iota \Rightarrow o. \forall X1. \forall X2. (((\neg v2_struct_0 X2) \wedge \\
& ((\neg v11_struct_0 X2) \wedge ((v2_stacks_1 X2) \wedge ((v3_stacks_1 X2) \wedge ((\\
& v4_stacks_1 X2) \wedge ((v5_stacks_1 X2) \wedge ((v6_stacks_1 X2) \wedge (l1_stacks_1 \\
& X2)))))))) \wedge (m1_subset_1 X1 (u4_struct_0 X2))) \Rightarrow (((\forall X3. \\
& (m1_subset_1 X3 (u4_struct_0 X2)) \Rightarrow ((r1_stacks_1 X2 X3) \Rightarrow (X0 X3))) \wedge \\
& (\forall X3.(m1_subset_1 X3 (u4_struct_0 X2)) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 X2)) \Rightarrow ((X0 X3) \Rightarrow (X0 (k7_stacks_1 X2 X3 X4)))))) \Rightarrow \\
& (X0 X1))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (v6_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (v5_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (v4_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (v3_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (v2_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((\neg v2_struct_0 (\\ &k14_stacks_1 X0)) \wedge ((\neg v11_struct_0 (k14_stacks_1 X0)) \wedge (v1_stacks_1 \\ &(k14_stacks_1 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))))) \Rightarrow ((v1_stacks_1 (k14_stacks_1 \\ &X0)) \wedge (l1_stacks_1 (k14_stacks_1 X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1.((v1_stacks_1 \\
& X1) \wedge (l1_stacks_1 X1)) \Rightarrow ((X1 = k14_stacks_1 X0) \Leftrightarrow ((u1_struct_0 \\
& X1 = u1_struct_0 X0) \wedge ((u4_struct_0 X1 = k8_eqrel_1 (u4_struct_0 \\
& X0) (k10_stacks_1 X0)) \wedge ((u1_stacks_1 X1 = k6_domain_1 (k1_zfmisc_1 \\
& (u4_struct_0 X0) (u1_stacks_1 X0)) \wedge ((u2_stacks_1 X1 = k3_stacks_1 \\
& (u1_struct_0 X0) (u4_struct_0 X0) (k10_stacks_1 X0) (u2_stacks_1 \\
& X0)) \wedge ((u3_stacks_1 X1 = k2_filter_1 (u4_struct_0 X0) (k10_stacks_1 \\
& X0) (k4_stacks_1 (u4_struct_0 X0) (u4_struct_0 X0) (u1_stacks_1 \\
& X0) (u1_stacks_1 X0) (u3_stacks_1 X0) (k6_partfun1 (u1_stacks_1 \\
& X0)))))) \wedge (\forall X2.(m1_orders_1 X2 (k8_eqrel_1 (u4_struct_0 \\
& X0) (k10_stacks_1 X0))) \Rightarrow (u4_stacks_1 X1 = k2_funct_7 (k1_partfun1 \\
& (k8_eqrel_1 (u4_struct_0 X0) (k10_stacks_1 X0)) (k3_tarski (k8_eqrel_1 \\
& (u4_struct_0 X0) (k10_stacks_1 X0))) (u4_struct_0 X0) (u1_struct_0 \\
& X0) X2 (u4_stacks_1 X0) (u1_stacks_1 X0) (the (\lambda X3 : \iota.m1_subset_1 \\
& X3 (u1_struct_0 X0))))))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_stacks_1 X0) \Rightarrow ((v1_stacks_1 X0) \Rightarrow (X0 = g1_stacks_1 \\
& (u1_struct_0 X0) (u4_struct_0 X0) (u1_stacks_1 X0) (u2_stacks_1 \\
& X0) (u3_stacks_1 X0) (u4_stacks_1 X0)))
\end{aligned} \tag{15}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\
& (k14_stacks_1 X0))) \Rightarrow ((X2 = k6_eqrel_1 (u4_struct_0 X0) (u4_struct_0 \\
& X0) (k10_stacks_1 X0) X1) \Rightarrow (k9_stacks_1 (k14_stacks_1 X0) X2 = k9_stacks_1 \\
& X0 X1))))
\end{aligned}$$