

t5_stacks_1

(TMayACfLfyTjR4HvVp5jyUDua94KR6e8om2)

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 $k9_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\ & ((v2_stacks_1 X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 \\ & X0) \wedge ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0)))))))) \wedge (m1_subset_1 \\ & X1 (u4_struct_0 X0))) \Rightarrow (m2_finseq_2 (k9_stacks_1 X0 X1) (u1_struct_0 \\ & X0) (k3_finseq_2 (u1_struct_0 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\
& X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\
& ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m2_finseq_2 X2 (u1_struct_0 \\
& X0) (k3_finseq_2 (u1_struct_0 X0))) \Rightarrow ((X2 = k9_stacks_1 X0 X1) \Leftrightarrow \\
& (\exists X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u4_struct_0 X0) \\
& (k3_finseq_2 (u1_struct_0 X0))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)))))) \wedge \\
& ((X2 = k3_funct_2 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)) \\
& X3 X1) \wedge ((\forall X4.(m1_subset_1 X4 (u4_struct_0 X0)) \Rightarrow ((r1_stacks_1 \\
& X0 X4) \Rightarrow (k3_funct_2 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 \\
& X0)) X3 X4 = k1_xboole_0))) \wedge (\forall X4.(m1_subset_1 X4 (u4_struct_0 \\
& X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (k3_funct_2 \\
& (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)) X3 (k7_stacks_1 \\
& X0 X4 X5) = k7_finseq_1 (k12_finseq_1 (u1_struct_0 X0) X5) (k3_funct_2 \\
& (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)) X3 X4))))))))))
\end{aligned} \tag{2}$$

Theorem 1

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