

t14_stacks_1

(TMSTosgDj2BhtN63SqxNsCH5uNSbtW9Cje6)

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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 $r2_stacks_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1. (m1_subset_1 \\ &X1 (u4_struct_0 X0)) \Rightarrow ((r1_stacks_1 X0 X1) \Rightarrow (k9_stacks_1 X0 X1 = \\ &k1_xboole_0))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ &X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ &((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1. (m1_subset_1 \\ &X1 (u4_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u4_struct_0 \\ &X0)) \Rightarrow ((r2_stacks_1 X0 X1 X2) \Leftrightarrow (k9_stacks_1 X0 X1 = k9_stacks_1 X0 \\ &X2)))) \end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_stacks_1 \\ & X0) \wedge ((v3_stacks_1 X0) \wedge ((v4_stacks_1 X0) \wedge ((v5_stacks_1 X0) \wedge \\ & ((v6_stacks_1 X0) \wedge (l1_stacks_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u4_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 \\ & X0)) \Rightarrow (((r2_stacks_1 X0 X1 X2) \wedge (r1_stacks_1 X0 X1)) \Rightarrow (r1_stacks_1 \\ & X0 X2)))) \end{aligned}$$