t12_stacks_1 (TMS2f1xY2SUNg635pYcD7z8q8eJcbD4Q2EX)

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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 $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_2 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k9\_stacks\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k6\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_stacks\_1\ X0) \wedge ((v3\_stacks\_1\ X0) \wedge ((v4\_stacks\_1\ X0) \wedge ((v5\_stacks\_1\ X0) \wedge ((v6\_stacks\_1\ X0) \wedge (l1\_stacks\_1\ X0))))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (k9\_stacks\_1\ X0\ (k7\_stacks\_1\ X0\ X1\ X2) = k1\_stacks\_1\ (u1\_struct\_0\ X0)\ (k12\_finseq\_1\ (u1\_struct\_0\ X0)\ X2)\ (k9\_stacks\_1\ X0\ X1)))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_stacks\_1\ X0) \wedge ((v3\_stacks\_1\ X0) \wedge ((v4\_stacks\_1\ X0) \wedge ((v5\_stacks\_1\ X0) \wedge ((v6\_stacks\_1\ X0) \wedge (l1\_stacks\_1\ X0))))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \Rightarrow ((r1\_stacks\_1\ X0\ X1) \Rightarrow (k9\_stacks\_1\ X0\ X1 = k1\_xboole\_0))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_stacks\_1\ X0))) \Rightarrow (\neg (v2\_stacks\_1\ X0) \wedge (\forall X1.(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \Rightarrow (\neg r1\_stacks\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0 : \iota \Rightarrow o.\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (((X0\ (k6\_finseq\_1\ X1)) \wedge (\forall X2.(m2\_finseq\_1\ X2\ X1) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X1) \Rightarrow ((X0\ X2) \Rightarrow (X0\ (k1\_stacks\_1\ X1\ (k12\_finseq\_1\ X1\ X3)\ X2))))))) \Rightarrow (\forall X2.(m2\_finseq\_1\ X2\ X1) \Rightarrow (X0\ X2))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ X0\ X1) \Rightarrow (m2\_finseq\_1\ X2\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_stacks\_1\ X0))) \wedge ((m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k7\_stacks\_1\ X0\ X1\ X2)\ (u4\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.m1\_finseq\_2\ (k3\_finseq\_2\ X0)\ X0 \tag{7}$$

Assume the following.

$$\forall X0.k6\_finseq\_1\ X0 = k1\_xboole\_0 \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_stacks\_1\ X0) \wedge ((v3\_stacks\_1\ X0) \wedge ((v4\_stacks\_1\ X0) \wedge ((v5\_stacks\_1\ X0) \wedge ((v6\_stacks\_1\ X0) \wedge (l1\_stacks\_1\ X0)))))))) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ (u1\_struct\_0\ X0)\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))) \Rightarrow (\exists X2.(m1\_subset\_1\ X2\ (u4\_struct\_0\ X0)) \wedge (k9\_stacks\_1\ X0\ X2 = X1)))$$