t7_endalg (TMHfGvNxoxqBzWoG-duU5SKtVNoNk11UVJ9C)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_endalg : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_autalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \Rightarrow (\forall X1.(l3\_msualg\_1\ X1\ X0) \Rightarrow (r1\_msualg\_3\ X0\ X1\ X1\ (k2\_msualg\_3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_struct\_0\ X0) \wedge (l2\_msualg\_1\ X1\ X0)) \Rightarrow ((v1\_relat\_1\ (u3\_msualg\_1\ X0\ X1)) \wedge ((v4\_relat\_1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)) \wedge ((v1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)) \wedge (v1\_partfun1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.(l5\_struct\_0\ X0) \Rightarrow (l1\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.(l3\_msualg\_1\ X1\ X0) \Rightarrow (l2\_msualg\_1\ X1\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0) \Rightarrow (l5\_struct\_0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge (l1\_msualg\_1\ X0)))\wedge((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0)))\Rightarrow ((\neg v1\_xboole\_0\ (k4\_endalg\ X0\ X1))\wedge(m1\_subset\_1\ (k4\_endalg\ X0\ X1)\ (k1\_zfmisc\_1\ (k4\_autalg\_1\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow(m2\_pboole\ (k2\_msualg\_3\ X0\ X1)\ X0\ X1\ X1) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0))\Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k4\_autalg\_1\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)))))\Rightarrow((X2 = k4\_endalg\ X0\ X1)\Leftrightarrow((\forall X3.(m1\_autalg\_1\ X3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ X2)\Rightarrow(m2\_pboole\ X3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1)))\wedge(\forall X3.(m2\_pboole\ X3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)\ (u3\_msualg\_1\ X0\ X1))\Rightarrow((X3 \in X2)\Leftrightarrow(r1\_msualg\_3\ X0\ X1\ X1\ X3))))))) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((v4\_msualg\_1\ X1\ X0)\wedge(l3\_msualg\_1\ X1\ X0))\Rightarrow (k2\_msualg\_3\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1) \in k4\_endalg\ X0\ X1))$$