t1_msualg_6 (TMZDn8WjKM7uYB2HyeTrXdcLm1kKtEG6Knh)

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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 $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Let $k3\_finseq\_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \Rightarrow (\forall X1.(l3\_msualg\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u4\_struct\_0\ X0)) \Rightarrow ((k3\_msualg\_1\ X0\ X2\ X1 = k4\_card\_3\ (k3\_relat\_1\ (k1\_msualg\_1\ X0\ X2)\ (u3\_msualg\_1\ X0\ X1))) \wedge ((k9\_xtuple\_0\ (k3\_relat\_1\ (k1\_msualg\_1\ X0\ X2)\ (u3\_msualg\_1\ X0\ X1)) = k9\_xtuple\_0\ (k1\_msualg\_1\ X0\ X2)) \wedge (k4\_msualg\_1\ X0\ X2\ X1 = k1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)\ (k2\_msualg\_1\ X0\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \wedge ((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1))) \Rightarrow ((v1\_relat\_1\ (k3\_relat\_1\ X0\ X1)) \wedge (v1\_funct\_1\ (k3\_relat\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_struct\_0\ X0)\wedge(l2\_msualg\_1\ X1\ X0))\Rightarrow((v1\_relat\_1\ (u3\_msualg\_1\ X0\ X1))\wedge((v4\_relat\_1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0))\wedge((v1\_funct\_1\ (u3\_msualg\_1\ X0\ X1))\wedge(v1\_partfun1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0))))) \tag{4}$$

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.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.(l5\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.(l3\_msualg\_1\ X1\ X0)\Rightarrow(l2\_msualg\_1\ X1\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0)\Rightarrow(l5\_struct\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k3\_relat\_1\ X0\ X1) \tag{10}$$

Assume the following.

$$\forall X0.m1\_finseq\_2\ (k3\_finseq\_2\ X0)\ X0 \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\wedge(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)))\Rightarrow(m2\_finseq\_2\ (k1\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(X1 = k4\_card\_3\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(\exists X3.((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3))\wedge((X2 = X3)\wedge((k9\_xtuple\_0\ X3 = k9\_xtuple\_0\ X0)\wedge(\forall X4.(X4\in k9\_xtuple\_0\ X0)\Rightarrow(k1\_funct\_1\ X3\ X4\in k1\_funct\_1\ X0\ X4))))))) \tag{13}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.(l3\_msualg\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u4\_struct\_0\ X0))\Rightarrow(\forall X3.(X3 \in k3\_msualg\_1\ X0\ X2\ X1)\Rightarrow((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3)))))$$