

t69_exchsort
(TMV2Cfpr2jXg9VpgBmyWBus444iHUKRTXo)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v16_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_exchsort : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_exchsort : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ordinal6 : \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v16_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v5_relat_1 \\ & X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_exchsort X1)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k9_xtuple_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k9_xtuple_0 X1)) \Rightarrow (\forall X4.(m1_subset_1 X4 (k9_xtuple_0 \\ & X1)) \Rightarrow (((r1_ordinal1 X2 X3) \wedge (r1_ordinal1 X3 X4)) \Rightarrow (((k1_binop_1 \\ & (k7_exchsort X0 X1 X2 X4) X2 X3 = k4_tarski X2 X3) \wedge (k1_binop_1 (k7_exchsort \\ & X0 X1 X2 X4) X3 X4 = k4_tarski X3 X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1) \tag{2}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_exchsort X0))) \Rightarrow (v1_ordinal6 (k9_xtuple_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0. (v1_ordinal1 X0) \Leftrightarrow (\forall X1. (X1 \in X0) \Rightarrow (r1_tarski X1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.(v1_ordinal6\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v3_ordinal1\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.(v3_ordinal1\ X0)\Rightarrow((v1_ordinal1\ X0)\wedge(v2_ordinal1\ X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0)\wedge((v3_orders_2\ X0)\wedge((v4_orders_2\ X0)\wedge((v5_orders_2\ X0)\wedge((v16_waybel_0\ X0)\wedge(l1_orders_2\ X0))))))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0\ X1)\wedge((v1_relat_1\ X1)\wedge((v5_relat_1\ X1\ (u1_struct_0\ X0))\wedge((v1_funct_1\ X1)\wedge(v1_exhsort\ X1))))))\Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ (k9_xtuple_0\ X1))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (k9_xtuple_0\ X1))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (k9_xtuple_0\ X1))\Rightarrow(((X2\in X3)\wedge(X3\in X4))\Rightarrow((k1_binop_1\ (k7_exhsort\ X0\ X1\ X2\ X4)\ X2\ X3 = k4_tarski\ X2\ X3)\wedge(k1_binop_1\ (k7_exhsort\ X0\ X1\ X2\ X4)\ X3\ X4 = k4_tarski\ X3\ X4))))))) \end{aligned}$$