

t46_exchsort
(TMaWrWa6nRH8sxLtNyVSJA6Pw2M6ETCCRNS)

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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 $v1_relat_1 : \iota \Rightarrow o$ 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 $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_exchsort : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r2_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (((k9_xtuple_0 X0 = k9_xtuple_0 \\ X1) \wedge (\forall X2.(X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X0 X2 = k1_funct_1 \\ X1 X2))) \Rightarrow (X0 = X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski\ X0\ X1 = k4_tarski\ X2\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1\ X0\ X1) \quad (7)$$

Assume the following.

$$\exists X0.v1_xboole_0\ X0 \quad (8)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((l1_orders_2\ X0) \wedge ((v1_xboole_0\ X1) \wedge (v1_relat_1\ X1) \wedge ((v5_relat_1\ X1\ (u1_struct_0\ X0)) \wedge ((v1_funct_1\ X1) \wedge (v1_exhsort\ X1)))))) \Rightarrow (v1_xboole_0\ (k6_exhsort\ X0\ X1))) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (v1_xboole_0\ (k9_xtuple_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1\ X1\ X0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (13)$$

Assume the following.

$$k1_xboole_0 = the\ (\lambda X0 : \iota.v1_xboole_0\ X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0\ X0) \wedge ((v3_orders_2\ X0) \wedge ((v4_orders_2\ X0) \wedge ((v5_orders_2\ X0) \wedge ((v16_waybel_0\ X0) \wedge (l1_orders_2\ X0)))))) \Rightarrow \\ & (\forall X1.(((v1_relat_1\ X1) \wedge ((v5_relat_1\ X1\ (u1_struct_0\ X0)) \wedge ((v1_funct_1\ X1) \wedge (v1_exhsort\ X1)))))) \Rightarrow (k6_exhsort\ X0\ X1 = ReplSep2 \\ & (toset\ (\lambda X2 : \iota.m1_subset_1\ X2\ (k9_xtuple_0\ X1)))\ (\lambda X2 : \iota.toset\ (\lambda X3 : \iota.m1_subset_1\ X3\ (k9_xtuple_0\ X1)))\ (\lambda X2 : \iota.\lambda X3 : \iota.(X2 \in X3) \wedge (r2_orders_2\ X0\ (k7_partfun1\ (u1_struct_0\ X0)\ X1\ X3)\ (k7_partfun1\ (u1_struct_0\ X0)\ X1\ X2)))\ (\lambda X2 : \iota.\lambda X3 : \iota.k4_tarski\ X2\ X3))) \quad (16) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_funct_1 X0) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v2_struct_0 X2)\wedge((v3_orders_2 \\ & X2)\wedge((v4_orders_2 X2)\wedge((v5_orders_2 X2)\wedge((v16_waybel_0 X2)\wedge \\ & (l1_orders_2 X2))))))\Rightarrow(\forall X3.((v1_relat_1 X3)\wedge((v5_relat_1 \\ & X3 (u1_struct_0 X2))\wedge((v1_funct_1 X3)\wedge(v1_exhsort X3))))\Rightarrow(\\ & (k4_tarski X0 X1 \in k6_exhsort X2 X3)\Leftrightarrow((X0 \in k9_xtuple_0 X3)\wedge((X1 \in \\ & k9_xtuple_0 X3)\wedge((X0 \in X1)\wedge(r2_orders_2 X2 (k7_partfun1 (u1_struct_0 \\ & X2) X3 X1) (k7_partfun1 (u1_struct_0 X2) X3 X0)))))) \end{aligned}$$