

t30_exchsort
(TMXg4pk62RkD6rZYsUw1Mr1KvZ69fDKHuAy)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_exchsort : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. k9_xtuple_0 (k10_funct_7 X0 X1 X2) = k9_xtuple_0 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X0 \in k9_xtuple_0 X2) \wedge (X1 \in k9_xtuple_0 X2)) \Rightarrow (k1_funct_1 (k10_funct_7 X2 X0 X1) X0 = k1_funct_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow (v5_relat_1 (k10_funct_7 X1 X2 X3) X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k10_funct_7 X0 X1 X2)) \wedge (v1_funct_1 (k10_funct_7 X0 X1 X2))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v5_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow (\forall X2. (X2 \in k9_xtuple_0 X1) \Rightarrow (k7_partfun1 X0 X1 X2 = k1_funct_1 X1 X2)) \quad (5)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge ((v5_relat_1 X3 X0) \wedge ((v1_funct_1 X3) \wedge (v1_exchsort X3)))) \Rightarrow ((X1 \in k9_xtuple_0 X3) \wedge (X2 \in k9_xtuple_0 X3)) \Rightarrow (k7_partfun1 X0 (k10_funct_7 X3 X1 X2) X1 = k7_partfun1 X0 X3 X2)$$