

t34\_exchsort  
(TMaJ7Uf1rd98WP1kwVsABzss1vMYFY4YK25)

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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.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (\neg(X0 \neq X1) \wedge ((X0 \neq X2) \wedge (k1\_funct\_1 (k10\_funct\_7 X3 X1 X2) X0 \neq k1\_funct\_1 X3 X0))) \quad (2)$$

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**

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v1\_relat\_1 X4) \wedge ((v5\_relat\_1 X4 X0) \wedge ((v1\_funct\_1 X4) \wedge (v1\_exchsort X4)))) \Rightarrow ((X1 \in k9\_xtuple\_0 X4) \Rightarrow ((X1 = X2) \vee ((X1 = X3) \vee (k7\_partfun1 X0 (k10\_funct\_7 X4 X2 X3) X1 = k7\_partfun1 X0 X4 X1))))$$