

t38\_exchsort  
(TMQv7CPayq9apFSnbvar8Q2ZjKvTweS1hWW)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_exchsort : \iota \Rightarrow o$  be given. Let  $m1\_exchsort : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_partfun1 : \iota \Rightarrow \iota$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k9\_xtuple\_0 X1) X0) \Rightarrow (k3\_relat\_1 (k4\_relat\_1 X0) X1 = X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (2)$$

Assume the following.

$$\forall X0. k6\_partfun1 X0 = k4\_relat\_1 X0 \quad (3)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k4\_relat\_1 X0)) \wedge (v2\_funct\_1 (k4\_relat\_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k4\_relat\_1 X0)) \wedge (v2\_funct\_2 (k4\_relat\_1 X0) X0) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k4\_relat\_1 X0)) \wedge ((v4\_relat\_1 (k4\_relat\_1 X0) X0) \wedge ((v1\_funct\_1 (k4\_relat\_1 X0)) \wedge (v1\_partfun1 (k4\_relat\_1 X0) X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_partfun1 (k6\_partfun1 X0) X0) \wedge (m1\_subset\_1 (k6\_partfun1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0))) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_exhsort X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_exhsort X1)))) \Rightarrow ((m1\_exhsort X1 X0) \Leftrightarrow (\exists X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X0)) \wedge (v3\_funct\_2 X2 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X0)))))) \wedge (X1 = k3\_relat\_1 X2 X0)))) \quad (8) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (((v1\_funct\_1 X2) \wedge ((v2\_funct\_1 X2) \wedge (v2\_funct\_2 X2 X1))) \Rightarrow ((v1\_funct\_1 X2) \wedge (v3\_funct\_2 X2 X0 X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v1\_partfun1 X2 X0) \Rightarrow (v1\_funct\_2 X2 X0 X1)) \quad (10)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_exhsort X0))) \Rightarrow (m1\_exhsort X0 X0)$$