

t7\_rlvect\_2 (TM-  
RKz7raQmy2pRgv4Nx6AkGeVNGaifMPA9Y)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow \\
& (\forall X1. (m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m2\_finseq\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\
& X3 (k1\_relset\_1 k5\_numbers X1) (k1\_relset\_1 k5\_numbers X1)) \wedge \\
& (v3\_funct\_2 X3 (k1\_relset\_1 k5\_numbers X1) (k1\_relset\_1 k5\_numbers \\
& X1)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_relset\_1 \\
& k5\_numbers X1) (k1\_relset\_1 k5\_numbers X1)))))) \Rightarrow (((k3\_finseq\_1 \\
& X1 = k3\_finseq\_1 X2) \wedge (\forall X4. (m1\_subset\_1 X4 k5\_numbers) \Rightarrow \\
& ((X4 \in k1\_relset\_1 k5\_numbers X2) \Rightarrow (k1\_funct\_1 X2 X4 = k1\_funct\_1 \\
& X1 (k1\_funct\_1 X3 X4)))))) \Rightarrow (k4\_rlvect\_1 X0 X1 = k4\_rlvect\_1 X0 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ X1))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k4\_finseq\_1 \\ X0) (k4\_finseq\_1 X0)) \wedge ((v3\_funct\_2 X2 (k4\_finseq\_1 X0) (k4\_finseq\_1 \\ X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k4\_finseq\_1 \\ X0) (k4\_finseq\_1 X0)))))) \Rightarrow ((X1 = k3\_relat\_1 X2 X0) \Rightarrow (k3\_finseq\_1 \\ X1 = k3\_finseq\_1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k3\_relat\_1 \\ X2 X1)) \Rightarrow (k1\_funct\_1 (k3\_relat\_1 X2 X1) X0 = k1\_funct\_1 X1 (k1\_funct\_1 \\ X2 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ( \\ k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ (((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X1)))) \wedge ((v1\_funct\_1 X5) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X2 X3)))))) \Rightarrow (k1\_partfun1 X0 X1 X2 X3 X4 X5 = k3\_relat\_1 X4 X5) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ( \\ (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ X0)))))) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ( \\ (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge \\ & (v1\_finseq\_1 X0)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((-v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow \\ & (\forall X1. (m2\_finseq\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m2\_finseq\_1 \\ & X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 (k1\_relset\_1 k5\_numbers X1) (k1\_relset\_1 k5\_numbers X1)) \wedge \\ & (v3\_funct\_2 X3 (k1\_relset\_1 k5\_numbers X1) (k1\_relset\_1 k5\_numbers \\ & X1)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_relset\_1 \\ & k5\_numbers X1) (k1\_relset\_1 k5\_numbers X1)))))) \Rightarrow ((X2 = k1\_partfun1 \\ & (k1\_relset\_1 k5\_numbers X1) (k1\_relset\_1 k5\_numbers X1) k5\_numbers \\ & (u1\_struct\_0 X0) X3 X1) \Rightarrow (k4\_rlvect\_1 X0 X1 = k4\_rlvect\_1 X0 X2)))))) \end{aligned}$$