

## t24\_matrixr2

(TMZbqCHbbY5ceusQVF4PDn4KkEWJA5rujLP)

October 27, 2020

Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k9\_matrixr1 : \iota \Rightarrow \iota$  be given. Let  $k8\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_matrix\_1 : \iota \Rightarrow o$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_matrix\_1 X0) \wedge (m2\_finseq\_1 X0 (k3\_finseq\_2 k1\_numbers))) \Rightarrow \\ & (\forall X1.((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 X1 (k3\_finseq\_2 k1\_numbers))) \Rightarrow \\ & (((k3\_finseq\_1 X0 = k3\_finseq\_1 X1) \wedge (k1\_matrix\_1 X0 = k1\_matrix\_1 \\ & X1)) \Rightarrow ((r1\_xxreal\_0 (k3\_finseq\_1 X0) k6\_numbers) \vee (k5\_matrixr1 \\ & (k3\_matrixr1 X0 X1) X1 = X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_1 \\ & X1 k1\_numbers) \Rightarrow ((k3\_finseq\_1 X0 = k3\_finseq\_1 X1) \Rightarrow ((r1\_xxreal\_0 \\ & (k3\_finseq\_1 X0) k6\_numbers) \vee (k9\_matrixr1 (k4\_rvsum\_1 X0 X1) = \\ & k3\_matrixr1 (k9\_matrixr1 X0) (k9\_matrixr1 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_1 \\ & X1 k1\_numbers) \Rightarrow ((k3\_finseq\_1 X0 = k3\_finseq\_1 X1) \Rightarrow (X0 = k4\_rvsum\_1 \\ & (k8\_rvsum\_1 X0 X1) X1))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v3\_valued\_0 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow ((k3\_finseq\_1 X0 = \\ k3\_finseq\_1 X1) \Rightarrow (k3\_finseq\_1 (k8\_rvsum\_1 X0 X1) = k3\_finseq\_1 \\ X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ( \\ (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ( \\ (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_finseq\_1 X0 k1\_numbers) \Rightarrow ((v1\_matrix\_1 (k9\_matrixr1 \\ X0)) \wedge (m2\_finseq\_1 (k9\_matrixr1 X0) (k3\_finseq\_2 k1\_numbers))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ( \\ v3\_valued\_0 X0) \wedge (v1\_finseq\_1 X0)))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 \\ X1) \wedge ((v3\_valued\_0 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (m2\_finseq\_1 (k8\_rvsum\_1 \\ X0 X1) k1\_numbers) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (m2\_finseq\_1 X0 k1\_numbers) \Rightarrow ((\neg r1\_xreal\_0 (k3\_finseq\_1 \\ X0) k6\_numbers) \Rightarrow (\forall X1. ((v1\_matrix\_1 X1) \wedge (m2\_finseq\_1 \\ X1 (k3\_finseq\_2 k1\_numbers))) \Rightarrow ((X1 = k9\_matrixr1 X0) \Leftrightarrow ((k3\_finseq\_1 \\ X1 = k3\_finseq\_1 X0) \wedge ((k1\_matrix\_1 X1 = np\_1) \wedge (\forall X2. (v7\_ordinal1 \\ X2) \Rightarrow ((X2 \in k4\_finseq\_1 X0) \Rightarrow (k1\_funct\_1 X1 X2 = k12\_finseq\_1 k1\_numbers \\ (k1\_seq\_1 X0 X2)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow (v5\_relat\_1 X1 X0) \quad (11)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v5\_relat\_1 X0 k1\_numbers)) \Rightarrow ((v1\_relat\_1 \\ X0) \wedge (v3\_valued\_0 X0)) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_finseq\_1 X0 k1\_numbers) \Rightarrow (\forall X1.(m2\_finseq\_1 \\ & X1 k1\_numbers) \Rightarrow ((k3\_finseq\_1 X0 = k3\_finseq\_1 X1) \Rightarrow ((r1\_xxreal\_0 \\ & (k3\_finseq\_1 X0) k6\_numbers) \vee (k9\_matrixr1 (k8\_rvsum\_1 X0 X1) = \\ & k5\_matrixr1 (k9\_matrixr1 X0) (k9\_matrixr1 X1)))))) \end{aligned}$$