

# t21\_vectsp10

(TMX8xZTjHNaitDBjq5oTtxt9NdpycwXuWu6K)

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  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v8\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v9\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v10\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v11\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_vectsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_vectsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v7\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_vectsp10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge \\
& ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v8\_vectsp\_1 \\
& X1 X0) \wedge ((v9\_vectsp\_1 X1 X0) \wedge ((v10\_vectsp\_1 X1 X0) \wedge ((v11\_vectsp\_1 \\
& X1 X0) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge \\
& (l1\_vectsp\_1 X1 X0)))))))))) \Rightarrow (\forall X2. (m1\_vectsp\_4 X2 X0 X1) \Rightarrow \\
& (k3\_vectsp\_4 X0 X1 (k4\_struct\_0 X1) X2 = u1\_struct\_0 X2))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 \\
& X0) \wedge (v2\_rlvect\_1 X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge \\
& (v3\_group\_1 X0) \wedge (v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 \\
& X0)))))) \wedge (((\neg v2\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v2\_rlvect\_1 \\
& X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 X1) \wedge (v8\_vectsp\_1 X1 X0) \wedge \\
& (v9\_vectsp\_1 X1 X0) \wedge (v10\_vectsp\_1 X1 X0) \wedge (v11\_vectsp\_1 X1 \\
& X0) \wedge (l1\_vectsp\_1 X1 X0)))))) \wedge (m1\_vectsp\_4 X2 X0 X1)) \Rightarrow (( \\
& \neg v2\_struct\_0 (k6\_vectsp10 X0 X1 X2)) \wedge (v13\_algstr\_0 (k6\_vectsp10 \\
& X0 X1 X2)) \wedge (v2\_rlvect\_1 (k6\_vectsp10 X0 X1 X2)) \wedge (v3\_rlvect\_1 \\
& (k6\_vectsp10 X0 X1 X2)) \wedge (v4\_rlvect\_1 (k6\_vectsp10 X0 X1 X2)) \wedge \\
& (v7\_vectsp\_1 (k6\_vectsp10 X0 X1 X2) X0) \wedge (v8\_vectsp\_1 (k6\_vectsp10 \\
& X0 X1 X2) X0) \wedge (v9\_vectsp\_1 (k6\_vectsp10 X0 X1 X2) X0) \wedge (v10\_vectsp\_1 \\
& (k6\_vectsp10 X0 X1 X2) X0) \wedge (v11\_vectsp\_1 (k6\_vectsp10 X0 X1 X2) \\
& X0) \wedge (l1\_vectsp\_1 (k6\_vectsp10 X0 X1 X2) X0))))))))) \\
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\
& X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v3\_group\_1 X0) \wedge ( \\
& v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))) \Rightarrow \\
& (\forall X1. ((\neg v2\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v2\_rlvect\_1 \\
& X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 X1) \wedge (v8\_vectsp\_1 X1 X0) \wedge \\
& (v9\_vectsp\_1 X1 X0) \wedge (v10\_vectsp\_1 X1 X0) \wedge (v11\_vectsp\_1 X1 \\
& X0) \wedge (l1\_vectsp\_1 X1 X0)))))) \Rightarrow (\forall X2. (m1\_vectsp\_4 X2 \\
& X0 X1) \Rightarrow (\forall X3. ((\neg v2\_struct\_0 X3) \wedge (v13\_algstr\_0 X3) \wedge ( \\
& v2\_rlvect\_1 X3) \wedge (v3\_rlvect\_1 X3) \wedge (v4\_rlvect\_1 X3) \wedge (v7\_vectsp\_1 \\
& X3 X0) \wedge (v8\_vectsp\_1 X3 X0) \wedge (v9\_vectsp\_1 X3 X0) \wedge (v10\_vectsp\_1 \\
& X3 X0) \wedge (v11\_vectsp\_1 X3 X0) \wedge (l1\_vectsp\_1 X3 X0)))))) \Rightarrow ( \\
& (X3 = k6\_vectsp10 X0 X1 X2) \Leftrightarrow ((u1\_struct\_0 X3 = k2\_vectsp10 X0 X1 X2) \wedge \\
& (r1\_funct\_2 (k2\_zfmisc\_1 (u1\_struct\_0 X3) (u1\_struct\_0 X3)) \\
& (u1\_struct\_0 X3) (k2\_zfmisc\_1 (k2\_vectsp10 X0 X1 X2) (k2\_vectsp10 \\
& X0 X1 X2)) (k2\_vectsp10 X0 X1 X2) (u1\_algstr\_0 X3) (k3\_vectsp10 X0 \\
& X1 X2)) \wedge ((k4\_struct\_0 X3 = k4\_vectsp10 X0 X1 X2) \wedge (r1\_funct\_2 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X3)) (u1\_struct\_0 X3) (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (k2\_vectsp10 X0 X1 X2)) (k2\_vectsp10 X0 X1 X2) ( \\
& u1\_vectsp\_1 X0 X3) (k5\_vectsp10 X0 X1 X2))))))))) \\
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ( \\
& (v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0))))))) \Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v8\_vectsp\_1 X1 X0) \wedge \\
& ((v9\_vectsp\_1 X1 X0) \wedge ((v10\_vectsp\_1 X1 X0) \wedge ((v11\_vectsp\_1 X1 \\
& X0) \wedge (l1\_vectsp\_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1\_vectsp\_4 X2 \\
& X0 X1) \Rightarrow (k4\_vectsp10 X0 X1 X2 = u1\_struct\_0 X2)))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ( \\
& (v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0))))))) \Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v8\_vectsp\_1 X1 X0) \wedge \\
& ((v9\_vectsp\_1 X1 X0) \wedge ((v10\_vectsp\_1 X1 X0) \wedge ((v11\_vectsp\_1 X1 \\
& X0) \wedge (l1\_vectsp\_1 X1 X0)))))))))) \Rightarrow (\forall X2.(m1\_vectsp\_4 X2 \\
& X0 X1) \Rightarrow ((k4\_vectsp10 X0 X1 X2 = k3\_vectsp\_4 X0 X1 (k4\_struct\_0 X1) \\
& X2) \wedge (k4\_struct\_0 (k6\_vectsp10 X0 X1 X2) = k4\_vectsp10 X0 X1 X2)))
\end{aligned}$$