

# t21\_csspace (TMbpmabUGcLRi- jAuxHT45hFshpPW29WqKf)

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Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. 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  $v2\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $v2\_csspace : \iota \Rightarrow o$  be given. Let  $l1\_csspace : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_complex1 : \iota \Rightarrow \iota$  be given. Let  $l1\_clvect\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v2\_clvect\_1 X1) \wedge ((v3\_clvect\_1 X1) \wedge ((v4\_clvect\_1 X1) \wedge \\
& ((v5\_clvect\_1 X1) \wedge ((v2\_csspace X1) \wedge (l1\_csspace X1)))))))))) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X1)) \Rightarrow (k12\_csspace X1 X2 (k1\_clvect\_1 X1 X3 X0) = \\
& k3\_xcmplx\_0 (k15\_complex1 X0) (k12\_csspace X1 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_clvect\_1 X0) \wedge \\
& ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v2\_csspace \\
& X0) \wedge (l1\_csspace X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 ( \\
& u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k12\_csspace X0 \\
& X1 (k3\_rlvect\_1 X0 X2 X3) = k2\_xcmplx\_0 (k12\_csspace X0 X1 X2) (k12\_csspace \\
& X0 X1 X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l1\_csspace X0) \Rightarrow (l1\_clvect\_1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (l1\_clvect\_1 \\ & X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (v1\_xcmplx\_0 X2))) \Rightarrow \quad (4) \\ & (m1\_subset\_1 (k1\_clvect\_1 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (v1\_xcmplx\_0 X0) \Rightarrow (\forall X1. (v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & ((\neg v2\_struct\_0 X2) \wedge ((v13\_algstr\_0 X2) \wedge ((v2\_rlvect\_1 X2) \wedge (( \\ & v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge ((v2\_clvect\_1 X2) \wedge ((v3\_clvect\_1 \\ & X2) \wedge ((v4\_clvect\_1 X2) \wedge ((v5\_clvect\_1 X2) \wedge ((v2\_csspace X2) \wedge ( \\ & l1\_csspace X2)))))))))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\ & X2)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 X2)) \Rightarrow (\forall X5. \\ & (m1\_subset\_1 X5 (u1\_struct\_0 X2)) \Rightarrow (k12\_csspace X2 X3 (k3\_rlvect\_1 \\ & X2 (k1\_clvect\_1 X2 X4 X0) (k1\_clvect\_1 X2 X5 X1)) = k2\_xcmplx\_0 (k3\_xcmplx\_0 \\ & (k15\_complex1 X0) (k12\_csspace X2 X3 X4) (k3\_xcmplx\_0 (k15\_complex1 \\ & X1) (k12\_csspace X2 X3 X5)))))))))) \end{aligned}$$