

## t10\_anproj\_1

(TML3NGMr1osVGCr4zssP7HuELAPtczGgLXg)

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  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r2\_anproj\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((r2\_anproj\_1 X0 X1 X2 X3) \Rightarrow ((r2\_anproj\_1 X0 X3 X2 X1) \wedge ((r2\_anproj\_1 X0 X3 X1 X2) \wedge (r2\_anproj\_1 X0 X2 X3 X1)))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((\forall X3.(m1\_subset\_1 X3 k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 X4 k1\_numbers) \Rightarrow ((k3\_rlvect\_1 X0 (k1\_rlvect\_1 X0 X1 X3) (k1\_rlvect\_1 X0 X2 X4) = k4\_struct\_0 X0) \Rightarrow ((X3 = k6\_numbers) \wedge (X4 = k6\_numbers)))))) \Rightarrow ((X1 \neq X2) \wedge ((X1 \neq k4\_struct\_0 X0) \wedge (X2 \neq k4\_struct\_0 X0))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ( \\
& (v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v5\_rlvect\_1 X1) \wedge ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge \\
& ((v8\_rlvect\_1 X1) \wedge (l1\_rlvect\_1 X1)))))))))) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X1)) \Rightarrow (((X0 = k6\_numbers) \vee (X2 = k4\_struct\_0 X1)) \Rightarrow \\
& (k1\_rlvect\_1 X1 X2 X0 = k4\_struct\_0 X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow ((r2\_anproj\_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4.(m1\_subset\_1 \\
& X4 k1\_numbers) \wedge (\exists X5.(m1\_subset\_1 X5 k1\_numbers) \wedge (\exists X6. \\
& (m1\_subset\_1 X6 k1\_numbers) \wedge ((k3\_rlvect\_1 X0 (k3\_rlvect\_1 X0 \\
& (k1\_rlvect\_1 X0 X1 X4) (k1\_rlvect\_1 X0 X2 X5)) (k1\_rlvect\_1 X0 X3 \\
& X6) = k4\_struct\_0 X0) \wedge (\neg(X4 = k6\_numbers) \wedge ((X5 = k6\_numbers) \wedge ( \\
& X6 = k6\_numbers))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow ((\neg(X1 \neq k4\_struct\_0 X0) \wedge ((X2 \neq k4\_struct\_0 \\
& X0) \wedge (X3 \neq k4\_struct\_0 X0))) \Rightarrow (r2\_anproj\_1 X0 X1 X2 X3))))))
\end{aligned}$$