

t7\_tmap\_1 (TM-  
Noa1akuivC8WmsdmTxGhnGZZAQVXSLaiU)

October 27, 2020

Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $g1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_pre\_topc X1 X0) \Rightarrow \\ ((v1\_pre\_topc (g1\_pre\_topc (u1\_struct\_0 X1) (u1\_pre\_topc X1))) \wedge \\ (m1\_pre\_topc (g1\_pre\_topc (u1\_struct\_0 X1) (u1\_pre\_topc X1)) \\ X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(l1\_pre\_topc X1) \Rightarrow (\forall X2. \\ (l1\_pre\_topc X2) \Rightarrow (\forall X3.(l1\_pre\_topc X3) \Rightarrow (((g1\_pre\_topc \\ (u1\_struct\_0 X0) (u1\_pre\_topc X0) = g1\_pre\_topc (u1\_struct\_0 X1) \\ (u1\_pre\_topc X1)) \wedge ((g1\_pre\_topc (u1\_struct\_0 X2) (u1\_pre\_topc \\ X2) = g1\_pre\_topc (u1\_struct\_0 X3) (u1\_pre\_topc X3)) \wedge (m1\_pre\_topc \\ X2 X0))) \Rightarrow (m1\_pre\_topc X3 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow ((v1\_pre\_topc \\ (g1\_pre\_topc (u1\_struct\_0 X0) (u1\_pre\_topc X0))) \wedge (v2\_pre\_topc \\ (g1\_pre\_topc (u1\_struct\_0 X0) (u1\_pre\_topc X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow ((v1\_pre\_topc X0) \Rightarrow (X0 = g1\_pre\_topc \\ (u1\_struct\_0 X0) (u1\_pre\_topc X0))) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.((v2\_pre\_topc X1) \wedge ( \\ l1\_pre\_topc X1)) \Rightarrow (\forall X2.((v2\_pre\_topc X2) \wedge (l1\_pre\_topc \\ X2)) \Rightarrow ((X1 = g1\_pre\_topc (u1\_struct\_0 X2) (u1\_pre\_topc X2)) \Rightarrow (( \\ m1\_pre\_topc X1 X0) \Leftrightarrow (m1\_pre\_topc X2 X0)))))) \end{aligned}$$