

t30\_tmap\_1  
(TMF4QVASV1uY22hiFkGL7hEq7mecq8KfJip)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tsep\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge (m1\_pre\_topc X1 X0)) \Rightarrow ( \\ & \forall X2.((\neg v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X0)) \Rightarrow (\forall X3. \\ & ((\neg v2\_struct\_0 X3) \wedge (m1\_pre\_topc X3 X0)) \Rightarrow ((\neg r1\_tsep\_1 X1 X2) \Rightarrow \\ & (((m1\_pre\_topc X1 X3) \Rightarrow ((\neg r1\_tsep\_1 (k2\_tsep\_1 X0 X3 X2) X1) \wedge (\neg \\ & r1\_tsep\_1 (k2\_tsep\_1 X0 X2 X3) X1)))) \wedge ((m1\_pre\_topc X2 X3) \Rightarrow ((\neg r1\_tsep\_1 \\ & (k2\_tsep\_1 X0 X1 X3) X2) \wedge (\neg r1\_tsep\_1 (k2\_tsep\_1 X0 X3 X1) X2))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge (m1\_pre\_topc X1 X0)) \Rightarrow ( \\ & \forall X2.((\neg v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X0)) \Rightarrow (m1\_pre\_topc \\ & X1 (k1\_tsep\_1 X0 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge (m1\_pre\_topc X1 X0)) \Rightarrow ( \\ & \forall X2.((\neg v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X0)) \Rightarrow (\forall X3. \\ & ((\neg v2\_struct\_0 X3) \wedge (m1\_pre\_topc X3 X0)) \Rightarrow ((m1\_pre\_topc X1 X2) \Rightarrow \\ & (((\neg r1\_tsep\_1 X2 X3) \wedge (\neg r1\_tsep\_1 X3 X2)) \vee ((r1\_tsep\_1 X1 X3) \wedge ( \\ & r1\_tsep\_1 X3 X1))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l1\_pre\_topc \\ & X0))\wedge(((\neg v2\_struct\_0 X1)\wedge(m1\_pre\_topc X1 X0))\wedge((\neg v2\_struct\_0 \\ & X2)\wedge(m1\_pre\_topc X2 X0))))\Rightarrow((\neg v2\_struct\_0 (k2\_tsep\_1 X0 X1 X2))\wedge \\ & ((v1\_pre\_topc (k2\_tsep\_1 X0 X1 X2))\wedge(m1\_pre\_topc (k2\_tsep\_1 X0 \\ & X1 X2) X0))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l1\_pre\_topc \\ & X0))\wedge(((\neg v2\_struct\_0 X1)\wedge(m1\_pre\_topc X1 X0))\wedge((\neg v2\_struct\_0 \\ & X2)\wedge(m1\_pre\_topc X2 X0))))\Rightarrow((\neg v2\_struct\_0 (k1\_tsep\_1 X0 X1 X2))\wedge \\ & ((v1\_pre\_topc (k1\_tsep\_1 X0 X1 X2))\wedge(m1\_pre\_topc (k1\_tsep\_1 X0 \\ & X1 X2) X0))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l1\_pre\_topc \\ & X0))\wedge(((\neg v2\_struct\_0 X1)\wedge(m1\_pre\_topc X1 X0))\wedge((\neg v2\_struct\_0 \\ & X2)\wedge(m1\_pre\_topc X2 X0))))\Rightarrow(k1\_tsep\_1 X0 X1 X2 = k1\_tsep\_1 X0 X2 \\ & X1) \end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge(l1\_pre\_topc \\ & X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge(m1\_pre\_topc X1 X0))\Rightarrow( \\ & \forall X2.((\neg v2\_struct\_0 X2)\wedge(m1\_pre\_topc X2 X0))\Rightarrow(\forall X3. \\ & ((\neg v2\_struct\_0 X3)\wedge(m1\_pre\_topc X3 X0))\Rightarrow(\forall X4.((\neg v2\_struct\_0 \\ & X4)\wedge(m1\_pre\_topc X4 X0))\Rightarrow(((m1\_pre\_topc X1 X2)\wedge(m1\_pre\_topc \\ & X3 X4))\Rightarrow(((\neg r1\_tsep\_1 X2 X4)\wedge(\neg r1\_tsep\_1 (k2\_tsep\_1 X0 X2 X4) ( \\ & k1\_tsep\_1 X0 X1 X3)))\vee((r1\_tsep\_1 X2 X3)\wedge(r1\_tsep\_1 X4 X1))))))) \end{aligned}$$