t94_semi_af1 (TMTLUvsgsnUHQNEsikPx-CvAhkMnYzKkEzU6)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_semi\_af1 : \iota \Rightarrow o$ be given. Let $l1\_analoaf : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r4\_semi\_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_semi\_af1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_semi\_af1\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_analoaf\ X0\ X1\ X2\ X3\ X4) \Rightarrow ((r2\_analoaf\ X0\ X2\ X1\ X3\ X4) \wedge ((r2\_analoaf\ X0\ X1\ X2\ X4\ X3) \wedge ((r2\_analoaf\ X0\ X2\ X1\ X4\ X3) \wedge ((r2\_analoaf\ X0\ X3\ X4\ X1\ X2) \wedge ((r2\_analoaf\ X0\ X4\ X3\ X1\ X2) \wedge ((r2\_analoaf\ X0\ X3\ X4\ X2\ X1) \wedge (r2\_analoaf\ X0\ X4\ X3\ X2\ X1)))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_semi\_af1\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow ((r4\_semi\_af1\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow ((\neg r1\_semi\_af1\ X0\ X5\ X1\ X3) \wedge ((r1\_semi\_af1\ X0\ X5\ X1\ X2) \wedge ((r1\_semi\_af1\ X0\ X5\ X3\ X4) \wedge (r2\_analoaf\ X0\ X1\ X3\ X2\ X4))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_semi\_af1\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_semi\_af1\ X0\ X1\ X2\ X3) \Leftrightarrow (r2\_analoaf\ X0\ X1\ X2\ X1\ X3))))) \tag{3}$$

Assume the following.

$$
\begin{gathered}
\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_analoaf\ X0))\Rightarrow((v1\_semi\_af1\\
X0)\Leftrightarrow((\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.\\
(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(r2\_analoaf\ X0\ X1\ X2\ X2\ X1)))\wedge\\
((\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\_analoaf\ X0\ X1\ X2\ X3\ X3))))\wedge((\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\\
(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\\
X5\ (u1\_struct\_0\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\\
X0))\Rightarrow(((r2\_analoaf\ X0\ X1\ X2\ X3\ X4)\wedge(r2\_analoaf\ X0\ X1\ X2\ X5\ X6))\Rightarrow(\\
(X1=X2)\vee(r2\_analoaf\ X0\ X3\ X4\ X5\ X6)))))))))\wedge((\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\_analoaf\\
X0\ X1\ X2\ X1\ X3)\Rightarrow(r2\_analoaf\ X0\ X2\ X1\ X2\ X3))))))\wedge((\neg\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\_analoaf\\
X0\ X1\ X2\ X1\ X3))))\wedge((\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(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\\
X0))\wedge((r2\_analoaf\ X0\ X1\ X2\ X3\ X4)\wedge(r2\_analoaf\ X0\ X1\ X3\ X2\ X4))))))\wedge\\
((\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(\\
m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\exists X3.(m1\_subset\_1\ X3\\
(u1\_struct\_0\ X0))\wedge(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow\\
(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow((r2\_analoaf\ X0\\
X1\ X2\ X1\ X3)\wedge(\neg\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow((\\
r2\_analoaf\ X0\ X1\ X3\ X1\ X4)\wedge(\neg(r2\_analoaf\ X0\ X1\ X5\ X1\ X6)\wedge(r2\_analoaf\\
X0\ X3\ X5\ X4\ X6))))))))))\wedge((\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(\forall X4.(m1\_subset\_1\ X4\\
(u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow\\
(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow(\forall X7.(m1\_subset\_1\\
X7\ (u1\_struct\_0\ X0))\Rightarrow(((r2\_analoaf\ X0\ X1\ X2\ X1\ X3)\wedge((r2\_analoaf\\
X0\ X1\ X4\ X1\ X5)\wedge((r2\_analoaf\ X0\ X1\ X6\ X1\ X7)\wedge((r2\_analoaf\ X0\ X2\ X4\ X3\\
X5)\wedge(r2\_analoaf\ X0\ X2\ X6\ X3\ X7)))))\Rightarrow((r2\_analoaf\ X0\ X1\ X2\ X1\ X4)\vee\\
((r2\_analoaf\ X0\ X1\ X2\ X1\ X6)\vee(r2\_analoaf\ X0\ X4\ X6\ X5\ X7)))))))))))\wedge\\
((\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(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow\\
(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\\
X6\ (u1\_struct\_0\ X0))\Rightarrow(((r2\_analoaf\ X0\ X1\ X2\ X3\ X4)\wedge((r2\_analoaf\\
X0\ X1\ X2\ X5\ X6)\wedge((r2\_analoaf\ X0\ X1\ X3\ X2\ X4)\wedge(r2\_analoaf\ X0\ X1\ X5\ X2\\
X6))))\Rightarrow((r2\_analoaf\ X0\ X1\ X2\ X1\ X3)\vee((r2\_analoaf\ X0\ X1\ X2\ X1\ X5)\vee\\
(r2\_analoaf\ X0\ X3\ X5\ X4\ X6))))))))))\wedge((\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(\forall X4.\\
(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\\
(u1\_struct\_0\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow\\
(((r2\_analoaf\ X0\ X1\ X2\ X1\ X3)\wedge((r2\_analoaf\ X0\ X4\ X5\ X4\ X6)\wedge((r2\_analoaf\\
X0\ X1\ X5\ X2\ X4)\wedge(r2\_analoaf\ X0\ X2\ X6\ X3\ X5))))\Rightarrow(r2\_analoaf\ X0\ X3\ X4\\
X1\ X6))))))))\wedge(\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(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\\
X0))\Rightarrow(\neg(\neg r2\_analoaf\ X0\ X1\ X2\ X1\ X3)\wedge((r2\_analoaf\ X0\ X1\ X2\ X3\ X4)\wedge\\
((r2\_analoaf\ X0\ X1\ X3\ X2\ X4)\wedge(r2\_analoaf\ X0\ X1\ X4\ X2\ X3))))))))))))))))))
\end{gathered}
\tag{4}
$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v1\_semi\_af1\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow((r4\_semi\_af1\ X0\ X1\ X2\ X3\ X4\ X4)\Rightarrow(X4 = X2))))))$$