t7_afvect01 (TMR4AyqsnFbZfHuPEzTtTT4D6momfSaccsv)

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Let $v7\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_afvect01 : \iota \Rightarrow o$ 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 $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_afvect01\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_analoaf\ X0\ X1\ X2\ X3\ X4) \Rightarrow (r2\_analoaf\ X0\ X2\ X1\ X3\ X4))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_afvect01\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_analoaf\ X0\ X1\ X2\ X3\ X4) \Rightarrow (r2\_analoaf\ X0\ X1\ X2\ X4\ X3))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_afvect01\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow ((r2\_analoaf\ X0\ X1\ X2\ X3\ X4) \Rightarrow (r2\_analoaf\ X0\ X3\ X4\ X1\ X2))))))) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_analoaf\ X0) \Rightarrow (l1\_struct\_0\ X0) \tag{4}$$

Assume the following.

$$
\begin{gathered}
\forall X0.((\neg \mathit{v2\_struct\_0}\ X0)\wedge(\mathit{l1\_analoaf}\ X0))\Rightarrow((\mathit{v1\_afvect01}\\
X0)\Leftrightarrow((\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.\\
(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\mathit{r2\_analoaf}\ X0\ X1\ X2\ X2\ X1)))\wedge\\
((\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.(\\
\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow((\mathit{r2\_analoaf}\ X0\ X1\ X2\ X1\ X1)\Rightarrow(\\
X1 = X2))))\wedge((\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.\\
(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X3.(\mathit{m1\_subset\_1}\ X3\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X4.(\mathit{m1\_subset\_1}\ X4\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
(\forall X5.(\mathit{m1\_subset\_1}\ X5\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X6.(\mathit{m1\_subset\_1}\\
X6\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(((\mathit{r2\_analoaf}\ X0\ X1\ X2\ X5\ X6)\wedge(\mathit{r2\_analoaf}\\
X0\ X3\ X4\ X5\ X6))\Rightarrow(\mathit{r2\_analoaf}\ X0\ X1\ X2\ X3\ X4))))))))\wedge((\forall X1.\\
(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.(\mathit{m1\_subset\_1}\ X2\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\exists X3.(\mathit{m1\_subset\_1}\ X3\ (\mathit{u1\_struct\_0}\ X0))\wedge\\
(\mathit{r2\_analoaf}\ X0\ X1\ X3\ X3\ X2))))\wedge((\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\forall X2.(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X3.\\
(\mathit{m1\_subset\_1}\ X3\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X4.(\mathit{m1\_subset\_1}\ X4\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X5.(\mathit{m1\_subset\_1}\ X5\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
(((\mathit{r2\_analoaf}\ X0\ X5\ X1\ X5\ X2)\wedge(\mathit{r2\_analoaf}\ X0\ X5\ X3\ X5\ X4))\Rightarrow((X1 = X2)\vee\\
((X3 = X4)\vee(\mathit{r2\_analoaf}\ X0\ X1\ X3\ X2\ X4)))))))))\wedge((\forall X1.(\mathit{m1\_subset\_1}\\
X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\neg(X1{\neq}X2)\wedge(\forall X3.(\mathit{m1\_subset\_1}\ X3\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
((\neg(X1{\neq}X3)\wedge(\mathit{r2\_analoaf}\ X0\ X1\ X2\ X2\ X3))\wedge(\forall X4.(\mathit{m1\_subset\_1}\\
X4\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X5.(\mathit{m1\_subset\_1}\ X5\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\neg(X4{\neq}X5)\wedge((\mathit{r2\_analoaf}\ X0\ X1\ X2\ X4\ X5)\wedge((\mathit{r2\_analoaf}\ X0\ X1\\
X4\ X4\ X2)\wedge(\mathit{r2\_analoaf}\ X0\ X1\ X5\ X5\ X2)))))))))))\wedge((\forall X1.(\mathit{m1\_subset\_1}\\
X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X2.(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\forall X3.(\mathit{m1\_subset\_1}\ X3\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X4.\\
(\mathit{m1\_subset\_1}\ X4\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X5.(\mathit{m1\_subset\_1}\ X5\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X6.(\mathit{m1\_subset\_1}\ X6\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
(((\mathit{r2\_analoaf}\ X0\ X1\ X2\ X2\ X6)\wedge((\mathit{r2\_analoaf}\ X0\ X2\ X3\ X4\ X5)\wedge((\mathit{r2\_analoaf}\\
X0\ X2\ X4\ X4\ X3)\wedge(\mathit{r2\_analoaf}\ X0\ X2\ X5\ X5\ X3))))\Rightarrow(\mathit{r2\_analoaf}\ X0\ X1\ X3\\
X3\ X6))))))))\wedge((\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
(\forall X2.(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X3.(\mathit{m1\_subset\_1}\\
X3\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X4.(\mathit{m1\_subset\_1}\ X4\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\neg(X1{\neq}X4)\wedge((X2{\neq}X3)\wedge((\mathit{r2\_analoaf}\ X0\ X1\ X2\ X2\ X4)\wedge((\mathit{r2\_analoaf}\\
X0\ X1\ X3\ X3\ X4)\wedge(\forall X5.(\mathit{m1\_subset\_1}\ X5\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\\
\forall X6.(\mathit{m1\_subset\_1}\ X6\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\neg(X5{\neq}X6)\wedge((\mathit{r2\_analoaf}\\
X0\ X2\ X3\ X5\ X6)\wedge((\mathit{r2\_analoaf}\ X0\ X2\ X5\ X5\ X3)\wedge(\mathit{r2\_analoaf}\ X0\ X2\ X6\ X6\\
X3))))))))))))))\wedge(\forall X1.(\mathit{m1\_subset\_1}\ X1\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow\\
(\forall X2.(\mathit{m1\_subset\_1}\ X2\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X3.(\mathit{m1\_subset\_1}\\
X3\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X4.(\mathit{m1\_subset\_1}\ X4\ (\mathit{u1\_struct\_0}\\
X0))\Rightarrow(\forall X5.(\mathit{m1\_subset\_1}\ X5\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X6.\\
(\mathit{m1\_subset\_1}\ X6\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X7.(\mathit{m1\_subset\_1}\ X7\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\neg(\mathit{r2\_analoaf}\ X0\ X1\ X2\ X4\ X5)\wedge((\mathit{r2\_analoaf}\ X0\\
X1\ X3\ X6\ X7)\wedge((\mathit{r2\_analoaf}\ X0\ X1\ X4\ X4\ X2)\wedge((\mathit{r2\_analoaf}\ X0\ X1\ X6\ X6\ X3)\wedge\\
((\mathit{r2\_analoaf}\ X0\ X1\ X5\ X5\ X2)\wedge((\mathit{r2\_analoaf}\ X0\ X1\ X7\ X7\ X3)\wedge(\forall X8.\\
(\mathit{m1\_subset\_1}\ X8\ (\mathit{u1\_struct\_0}\ X0))\Rightarrow(\forall X9.(\mathit{m1\_subset\_1}\ X9\\
(\mathit{u1\_struct\_0}\ X0))\Rightarrow(\neg(\mathit{r2\_analoaf}\ X0\ X2\ X3\ X8\ X9)\wedge((\mathit{r2\_analoaf}\ X0\\
X2\ X8\ X8\ X3)\wedge(\mathit{r2\_analoaf}\ X0\ X2\ X9\ X9\ X3))))))))))))))))))))))))))))
\end{gathered}
\tag{5}
$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow((\neg v7\_struct\_0\ X0)\Rightarrow(\neg v2\_struct\_0\ X0)) \qquad (6)$$

Theorem 1

$$\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect01\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(((r2\_analoaf\ X0\ X1\ X2\ X3\ X4)\wedge((r2\_analoaf\ X0\ X1\ X2\ X2\ X5)\wedge((r2\_analoaf\ X0\ X1\ X3\ X3\ X2)\wedge(r2\_analoaf\ X0\ X1\ X4\ X4\ X2))))\Rightarrow(X1 = X5)))))))$$