t5_sfmastr3 (TMT-CUs1uBruRYRn8aJx8XxM5aZKQXd6gLLQ)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_scmfsa\_2 : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_ami\_2 : \iota \Rightarrow o$ be given. Let $v1\_scmfsa\_m : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_scmfsa\_2 : \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_numbers : \iota$ be given. Let $k18\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_int\_2 : \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1\_scmfsa\_2\ X0) \Rightarrow (\forall X1.((v1\_ami\_2\ X1) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))) \Rightarrow (\forall X2.((v1\_ami\_2\ X2) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ k1\_scmfsa\_2))) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1\ X3\ (u1\_struct\_0\ k1\_scmfsa\_2)) \wedge ((v1\_funct\_1\ X3) \wedge ((v5\_funct\_1\ X3\ (k2\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2)) \wedge (v1\_partfun1\ X3\ (u1\_struct\_0\ k1\_scmfsa\_2))))))) \Rightarrow ((k1\_funct\_1\ (k2\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k14\_scmfsa\_2\ X1\ X2\ X0)\ X3)\ (k4\_struct\_0\ k1\_scmfsa\_2) = k4\_card\_1\ (k5\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ X3)) \wedge ((\exists X4.(m1\_subset\_1\ X4\ k5\_numbers) \wedge ((X4 = k1\_int\_2\ (k1\_funct\_1\ X3\ X2)) \wedge (k1\_funct\_1\ (k2\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k14\_scmfsa\_2\ X1\ X2\ X0)\ X3)\ X1 = k7\_partfun1\ k4\_numbers\ (k18\_scmfsa\_2\ X3\ X0)\ X4))) \wedge ((\forall X4.((v1\_ami\_2\ X4) \wedge (m1\_subset\_1\ X4\ (u1\_struct\_0\ k1\_scmfsa\_2))) \Rightarrow ((X4 \neq X1) \Rightarrow (k1\_funct\_1\ (k2\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k14\_scmfsa\_2\ X1\ X2\ X0)\ X3)\ X4 = k1\_funct\_1\ X3\ X4))) \wedge (\forall X4.(m1\_scmfsa\_2\ X4) \Rightarrow (r2\_relset\_1\ k5\_numbers\ k4\_numbers\ (k18\_scmfsa\_2\ (k2\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k14\_scmfsa\_2\ X1\ X2\ X0)\ X3)\ X4)\ (k18\_scmfsa\_2\ X3\ X4)))))))) \tag{1}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ (u1\_struct\_0\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X0)\wedge((v5\_funct\_1\ X0\ (k2\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2))\wedge(v1\_partfun1\ X0\ (u1\_struct\_0\ k1\_scmfsa\_2))))))\Rightarrow(\forall X1.((v1\_ami\_2\ X1)\wedge((\neg v1\_scmfsa\_m\ X1)\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))))\Rightarrow(\forall X2.((v1\_ami\_2\ X2)\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ k1\_scmfsa\_2)))\Rightarrow(\forall X3.(m1\_scmfsa\_2\ X3)\Rightarrow(k1\_funct\_1\ (k2\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k14\_scmfsa\_2\ X1\ X2\ X3)\ X0)\ X1 = k7\_partfun1\ k4\_numbers\ (k18\_scmfsa\_2\ X0\ X3)\ (k1\_int\_2\ (k1\_funct\_1\ X0\ X2))))))$$