

# t24\_msualg\_3 (TM- GABFK2xp9CAzkiNS7JCyUZHVKowPDhDzC)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v11\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k5\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge (l1\_msualg\_1 \\
& \quad X0))) \Rightarrow (\forall X1.(l3\_msualg\_1 X1 X0) \Rightarrow (\forall X2.(l3\_msualg\_1 \\
& \quad X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u4\_struct\_0 X0)) \Rightarrow (\forall X4. \\
& \quad (m2\_pboole X4 (u1\_struct\_0 X0) (u3\_msualg\_1 X0 X1) (u3\_msualg\_1 \\
& \quad X0 X2)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k3\_msualg\_1 X0 X3 X1)) \Rightarrow (\forall X6. \\
& \quad ((v1\_relat\_1 X6) \wedge (v1\_funct\_1 X6)) \Rightarrow (\forall X7.((v1\_relat\_1 \\
& \quad X7) \wedge (v1\_funct\_1 X7)) \Rightarrow (((X5 = X6) \wedge ((X5 \in k3\_msualg\_1 X0 X3 X1) \wedge ( \\
& \quad X7 \in k3\_msualg\_1 X0 X3 X2))) \Rightarrow (((X7 = k5\_msualg\_3 X0 X1 X2 X3 X4 X5) \Rightarrow \\
& \quad (\forall X8.(v7\_ordinal1 X8) \Rightarrow ((X8 \in k9\_xtuple\_0 X6) \Rightarrow (k1\_funct\_1 \\
& \quad X7 X8 = k1\_funct\_1 (k1\_msualg\_3 (u1\_struct\_0 X0) (u3\_msualg\_1 X0 \\
& \quad X1) (u3\_msualg\_1 X0 X2) X4 (k7\_partfun1 (u1\_struct\_0 X0) (k1\_msualg\_1 \\
& \quad X0 X3) X8)) (k1\_funct\_1 X6 X8)))))) \wedge ((\forall X8.(v7\_ordinal1 X8) \Rightarrow \\
& \quad ((X8 \in k9\_xtuple\_0 X6) \Rightarrow (k1\_funct\_1 X7 X8 = k1\_funct\_1 (k1\_msualg\_3 \\
& \quad (u1\_struct\_0 X0) (u3\_msualg\_1 X0 X1) (u3\_msualg\_1 X0 X2) X4 (k7\_partfun1 \\
& \quad (u1\_struct\_0 X0) (k1\_msualg\_1 X0 X3) X8)) (k1\_funct\_1 X6 X8)))))) \Rightarrow \\
& \quad (X7 = k5\_msualg\_3 X0 X1 X2 X3 X4 X5)))))))))
\end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge (l1\_msualg\_1 \\ & X0))) \Rightarrow (\forall X1.(l3\_msualg\_1 X1 X0) \Rightarrow (\forall X2.(l3\_msualg\_1 \\ & X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u4\_struct\_0 X0)) \Rightarrow (\forall X4. \\ & (m2\_pboole X4 (u1\_struct\_0 X0) (u3\_msualg\_1 X0 X1) (u3\_msualg\_1 \\ & X0 X2)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (k3\_msualg\_1 X0 X3 X1)) \Rightarrow (\forall X6. \\ & ((v1\_relat\_1 X6) \wedge (v1\_funct\_1 X6)) \Rightarrow (\forall X7.((v1\_relat\_1 \\ & X7) \wedge (v1\_funct\_1 X7)) \Rightarrow (((X5 = X6) \wedge ((X5 \in k3\_msualg\_1 X0 X3 X1) \wedge ( \\ & X7 \in k3\_msualg\_1 X0 X3 X2))) \Rightarrow ((X7 = k5\_msualg\_3 X0 X1 X2 X3 X4 X5) \Leftrightarrow ( \\ & \forall X8.(v7\_ordinal1 X8) \Rightarrow ((X8 \in k9\_xtuple\_0 X6) \Rightarrow (k1\_funct\_1 \\ & X7 X8 = k1\_funct\_1 (k1\_msualg\_3 (u1\_struct\_0 X0) (u3\_msualg\_1 X0 \\ & X1) (u3\_msualg\_1 X0 X2) X4 (k7\_partfun1 (u1\_struct\_0 X0) (k1\_msualg\_1 \\ & X0 X3) X8)) (k1\_funct\_1 X6 X8))))))))))))) \end{aligned}$$