

t27\_robins1  
(TMNVij9NXpHbhf7cL4saDWcsDsqQyiKZ8RR)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v4\_lattices : \iota \Rightarrow o$  be given. Let  $v5\_lattices : \iota \Rightarrow o$  be given. Let  $v6\_robins1 : \iota \Rightarrow o$  be given. Let  $l2\_robins1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l2\_lattices : \iota \Rightarrow o$  be given. Let  $l1\_robins1 : \iota \Rightarrow o$  be given. Let  $v7\_robins1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices X0) \wedge ((v5\_lattices \\ & X0) \wedge ((v6\_robins1 X0) \wedge (l2\_robins1 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (k3\_robins1 X0 (k3\_robins1 X0 X1) = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices X0) \wedge ((v5\_lattices \\ & X0) \wedge ((v6\_robins1 X0) \wedge (l2\_robins1 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (k5\_robins1 X0 X1 X2 = k3\_robins1 X0 (k6\_robins1 X0 (k3\_robins1 \\ & X0 X1) (k3\_robins1 X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ & X0) \wedge ((v5\_lattices X0) \wedge (l2\_robins1 X0)))) \wedge ((m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k6\_robins1 \\ & X0 X1 X2 = k4\_robins1 X0 X1 X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ & X0) \wedge (l2\_robins1 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k5\_robins1 X0 X1 X2 = k1\_lattices \\ & X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l2\_robbins1 X0) \Rightarrow ((l2\_lattices X0) \wedge (l1\_robbins1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ X0) \wedge ((v5\_lattices X0) \wedge (l2\_robbins1 X0)))) \wedge ((m1\_subset\_1 X1 \\ (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ (k6\_robbins1 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ X0) \wedge (l2\_robbins1 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k5\_robbins1 \\ X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0) \wedge (l1\_robbins1 X0)) \wedge \\ (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k3\_robbins1 \\ X0 X1) (u1\_struct\_0 X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_lattices X0)) \Rightarrow ((v7\_robbins1 \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices \\ X0 X1 X1 = X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_robbins1 X0)) \Rightarrow ((v6\_robbins1 \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices X0 (k3\_robbins1 \\ X0 (k1\_lattices X0 (k3\_robbins1 X0 X1) (k3\_robbins1 X0 X2))) (k3\_robbins1 \\ X0 (k1\_lattices X0 (k3\_robbins1 X0 X1) X2)) = X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_lattices X0)) \Rightarrow ((v5\_lattices \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices X0 X1 (k1\_lattices X0 X2 X3) = k1\_lattices \\ X0 (k1\_lattices X0 X1 X2) X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_robbins1 X0)) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ (u1\_struct\_0 X0)) \Rightarrow (k4\_robbins1 X0 X1 X2 = k3\_robbins1 X0 (k1\_lattices \\ X0 (k3\_robbins1 X0 X1) (k3\_robbins1 X0 X2)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v4\_lattices \\ X0)\wedge((v5\_lattices X0)\wedge(l2\_robbins1 X0))))\wedge((m1\_subset\_1 X1 \\ (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k6\_robbins1 \\ X0 X1 X2 = k6\_robbins1 X0 X2 X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v4\_lattices \\ X0)\wedge(l2\_robbins1 X0))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k5\_robbins1 X0 X1 X2 = k5\_robbins1 \\ X0 X2 X1) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2\_robbins1 X0)\Rightarrow(((\neg v2\_struct\_0 X0)\wedge((v4\_lattices \\ X0)\wedge((v5\_lattices X0)\wedge(v6\_robbins1 X0))))\Rightarrow((\neg v2\_struct\_0 X0)\wedge \\ (v7\_robbins1 X0)) \end{aligned} \quad (15)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v4\_lattices X0)\wedge((v5\_lattices \\ X0)\wedge((v6\_robbins1 X0)\wedge(l2\_robbins1 X0))))\Rightarrow(\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow(k3\_robbins1 \\ X0 (k6\_robbins1 X0 X1 (k5\_robbins1 X0 X2 X3)) = k5\_robbins1 X0 (k5\_robbins1 \\ X0 (k5\_robbins1 X0 (k5\_robbins1 X0 (k6\_robbins1 X0 (k6\_robbins1 \\ X0 X1 (k3\_robbins1 X0 X2)) (k3\_robbins1 X0 X3)) (k6\_robbins1 X0 ( \\ k6\_robbins1 X0 (k3\_robbins1 X0 X1) X2) X3)) (k6\_robbins1 X0 (k6\_robbins1 \\ X0 (k3\_robbins1 X0 X1) X2) (k3\_robbins1 X0 X3)) (k6\_robbins1 X0 \\ (k6\_robbins1 X0 (k3\_robbins1 X0 X1) (k3\_robbins1 X0 X2)) X3)) (k6\_robbins1 \\ X0 (k6\_robbins1 X0 (k3\_robbins1 X0 X1) (k3\_robbins1 X0 X2)) (k3\_robbins1 \\ X0 X3)))))) \end{aligned}$$