

## t33\_bcialg\_2

(TMchHwBn1Hj7qoJX4vn9vqrDLhbbUULinYq)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $v4\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $v5\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $v7\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $l2\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v10\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_bcialg\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_bcialg\_1 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ &X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ &(\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v10\_bcialg\_1 \\ &X1 X0) \Leftrightarrow (k2\_bcialg\_1 X0 (k2\_bcialg\_1 X0 X1) = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ &X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ &(\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 \\ &X2 k5\_numbers) \Rightarrow (k2\_bcialg\_1 X0 (k2\_bcialg\_1 X0 (k1\_bcialg\_2 X0 \\ &(k4\_struct\_0 X0) X1 X2)) = k1\_bcialg\_2 X0 (k4\_struct\_0 X0) X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (l2\_bcialg\_1 X0) \Rightarrow ((l1\_bcialg\_1 X0) \wedge (l2\_struct\_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (&((\neg v2\_struct\_0 X0) \wedge (l2\_bcialg\_1 X0)) \wedge \\ &(m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k2\_bcialg\_1 \\ &X0 X1) (u1\_struct\_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2\_struct\_0 \\
& X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 X0) \wedge ((v5\_bcialg\_1 X0) \wedge \\
& ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0)) \wedge ((m1\_subset\_1 X2 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X3 k5\_numbers)))) \Rightarrow \\
& (m1\_subset\_1 (k1\_bcialg\_2 X0 X1 X2 X3) (u1\_struct\_0 X0))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\
& X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\
& (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 \\
& X2 k5\_numbers) \Rightarrow (v10\_bcialg\_1 (k1\_bcialg\_2 X0 (k4\_struct\_0 X0) \\
& (k2\_bcialg\_1 X0 X1) X2) X0)))
\end{aligned}$$