

## t17\_orders\_1

(TMQ6DnNLsZs7Tq7BXbNzNtq1NnpCXXvz3E3)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_orders\_1 : \iota \Rightarrow o$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_relat\_2 X0)) \Rightarrow ((v1\_relat\_1 (k2\_relat\_1 X0)) \wedge (v1\_relat\_2 (k2\_relat\_1 X0))) \quad (1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v8\_relat\_2 X0)) \Rightarrow ((v1\_relat\_1 (k2\_relat\_1 X0)) \wedge (v8\_relat\_2 (k2\_relat\_1 X0))) \quad (2)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v4\_relat\_2 X0)) \Rightarrow ((v1\_relat\_1 (k2\_relat\_1 X0)) \wedge (v4\_relat\_2 (k2\_relat\_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k2\_relat\_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow ((v2\_orders\_1 X0) \Leftrightarrow ((v1\_relat\_2 X0) \wedge ((v8\_relat\_2 X0) \wedge (v4\_relat\_2 X0)))) \quad (5)$$

**Theorem 1**

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow ((v2\_orders\_1 X0) \Rightarrow (v2\_orders\_1 (k2\_relat\_1 X0)))$$