

## t25\_orders\_1

(TMS7x8dAMt7NuSviMaYi4VWz4S3VoFCJmif)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_1 : \iota \Rightarrow o$  be given. Let  $k2\_wellord1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((v8\_relat\_2 X1) \Rightarrow (v8\_relat\_2 (k2\_wellord1 X1 X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((v1\_relat\_2 X1) \Rightarrow (v1\_relat\_2 (k2\_wellord1 X1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k2\_wellord1 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow ((v1\_orders\_1 X0) \Leftrightarrow ((v1\_relat\_2 X0) \wedge (v8\_relat\_2 X0))) \quad (4)$$

### Theorem 1

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_orders\_1 X0) \Rightarrow (v1\_orders\_1 (k2\_wellord1 X0 X1)))$$