

# t5\_bintree2

(TMR6Zoe5GYpZ5c9GG6HoWADGrWFHFMLvoXJ)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_trees\_1 : \iota \Rightarrow o$  be given. Let  $v1\_bintree1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_bintree2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_trees\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_margrel1 : \iota$  be given. Let  $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_trees\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow (m2\_finseq\_2 X1 X0 (k4\_finseq\_2 (k3\_finseq\_1 X1) X0)) \quad (1)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_trees\_1 X0) \wedge (v1\_bintree1 X0))) \Rightarrow (\forall X1. (m1\_bintree2 X1 X0) \Rightarrow (m2\_finseq\_1 X1 k6\_margrel1)) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_trees\_1 X0)) \Rightarrow (\forall X1. (v7\_ordinal1 X1) \Rightarrow (k2\_trees\_2 X0 X1 = ReplSep (toset (\lambda X2 : \iota. m1\_trees\_1 X2 X0)) (\lambda X2 : \iota. k3\_finseq\_1 X2 = X1) (\lambda X2 : \iota. X2)))) \quad (4)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (5)$$

**Theorem 1**

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v1\_trees\_1 X0) \wedge (v1\_bintree1 X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 k5\_numbers) \Rightarrow (\forall X2. (m1\_bintree2 X2 X0) \Rightarrow ((X2 \in k2\_trees\_2 X0 X1) \Rightarrow (m2\_finseq\_2 X2 k6\_margrel1 (k4\_finseq\_2 X1 k6\_margrel1))))))$$