

## t44\_filerec1

(TMHzfgzeMQcX5JBZJQUJN5MYX3mLSQdChy9)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r5\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_filerec1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_finseq\_1 X2 X0) \Rightarrow (\forall X3.(m1\_finseq\_1 X3 X0) \Rightarrow \\ & (((r5\_finseq\_8 X0 X2 X1) \wedge (r5\_finseq\_8 X0 X3 X1)) \Rightarrow (r2\_finseq\_8 \\ & X0 (k9\_finseq\_8 X0 (k1\_finseq\_8 X0 X2 X3) X1) (k1\_finseq\_8 X0 X1 X3) \\ & np\_1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_finseq\_1 X2 X0) \Rightarrow (r1\_tarski X1 (k9\_finseq\_8 X0 \\ & X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_finseq\_1 X2 X0) \Rightarrow (r1\_tarski X1 (k1\_finseq\_8 X0 \\ & X1 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((r1\_tarski X0 X1) \wedge (r1\_tarski \\ & X1 X2)) \Rightarrow (r1\_tarski X0 X2) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_finseq\_1 X2 X0) \Rightarrow (\forall X3.(m1\_finseq\_1 X3 X0) \Rightarrow \\ & ((r1\_filerec1 X0 X1 X2 X3) \Leftrightarrow (((r2\_finseq\_8 X0 (k9\_finseq\_8 X0 X2 \\ & X3) (k1\_finseq\_8 X0 X3 X1) np\_1) \vee (r1\_tarski X1 (k9\_finseq\_8 X0 \\ & X2 X3))) \wedge (r5\_finseq\_8 X0 X1 X3)))))) \end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_finseq\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1\_finseq\_1 X2 X0) \Rightarrow (\forall X3.(m1\_finseq\_1 X3 X0) \Rightarrow \\ & (\forall X4.(m1\_finseq\_1 X4 X0) \Rightarrow (((r5\_finseq\_8 X0 X2 X1) \wedge ((r5\_finseq\_8 \\ & X0 X3 X1) \wedge (X4 = k1\_finseq\_8 X0 X2 X3))) \Rightarrow ((r1\_filerec1 X0 X2 X4 X1) \wedge \\ & (r1\_filerec1 X0 X3 X4 X1)))))) \end{aligned}$$