Inference at $*$ 1 1
of proof for Lemma append_overlapping_sublists:

.....assertion..... NILNIL

1. T : Type
2. L_1 : T List
3. L_2 : T List
4. L : T List
5. x : T
6. $\forall i, j{:}\mathbb{N}.\ (i < \|L\|) \Rightarrow (j < \|L\|) \Rightarrow (\neg(i = j)) \Rightarrow (\neg(L[i] = L[j]))$
7. $f_1 : \{0..\|L_1 \ @ \ [x]\|^-\} \rightarrow \{0..\|L\|^-\}$
8. increasing(f_1;$\|L_1 \ @ \ [x]\|$)
9. $\forall j{:}\{0..\|L_1 \ @ \ [x]\|^-\}.\ (L_1 \ @ \ [x])[j] = L[(f_1(j))]$
10. $f : \{0..(\|L_2\|+1)^-\} \rightarrow \{0..\|L\|^-\}$
11. increasing(f;$\|L_2\|+1$)
12. $\forall j{:}\{0..(\|L_2\|+1)^-\}.\ [x \ / \ L_2][j] = L[(f(j))]$

$\vdash \|L_1 \ @ \ [x \ / \ L_2]\| = \|L_1\|+\|L_2\|+1$

by ((RWO "length_append" 0)
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 1:n
),(first_nat 3:n)) (first_tok :t) inil_term)))·

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$\vdash \|L_1\|+\|[x \ / \ L_2]\| = \|L_1\|+\|L_2\|+1$

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