

Inference at * 1 1 1

of proof for Lemma fseg_extend:

....subterm.... T:t1:n

1. $T : \text{Type}$
 2. $l_1 : T \text{ List}$
 3. $v : T$
 4. $l_2 : T \text{ List}$
 5. $L : T \text{ List}$
 6. $l_2 = (L @ l_1)$
 7. $\|l_1\| < \|l_2\|$
 8. $l_2[(\|l_2\| - (\|l_1\| + 1))] = v$
 9. $\neg(\uparrow \text{null}(L))$
 10. $L' : T \text{ List}$
 11. $L = (L' @ [\text{last}(L)])$
- $\vdash \text{last}(L) = v$
by (((Assert 0 < $\|L\|$)
THENL [(((DVar 'L')
CollapseTHEN (((All Reduce)

CollapseTHEN (Auto')))).); Id].)
CollapseTHEN (((((RevHypSubst (-5) 0)

CollapseTHEN (Auto.)).)
CollapseTHEN (((StrongHypSubst (-7) 0)
CollapseTHEN (Auto'))
CollapseTHEN (((HypSubst (-1) 0)
CollapseTHEN (Auto')))).)).).

1:

12. $0 < \|L\|$
 $\vdash \text{last}(L) = (L @ l_1)[(\|L @ l_1\| - (\|l_1\| + 1))]$

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