

Inference at * 1 1 1 1
of proof for Lemma fseg_extend:

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. $L = (L' @ [\text{last}(L)])$
12. $0 < \|L\|$

$\vdash \text{last}(L) = (L @ l_1)[(\|L @ l_1\| - (\|l_1\| + 1))]$
by (((RWO "select_append_front" 0)
CollapseTHEN (Auto'))·)
CollapseTHEN (((
RWO "length_append" 0)
CollapseTHEN (Auto'))·)).

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$\vdash \text{last}(L) = L[(\|L\| + \|l_1\|) - (\|l_1\| + 1)]$
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