

Inference at * 1 1 2 1 1 2
of proof for Lemma adjacent-append:

1. $T : \text{Type}$
 2. $x : T$
 3. $y : T$
 4. $L_1 : T \text{ List}$
 5. $L_2 : T \text{ List}$
 6. $i : \{0..(\|L_1 @ L_2\| - 1)^-\}$
 7. $x = L_1[i]$
 8. $y = L_2[(i+1) - \|L_1\|]$
 9. $i < \|L_1\|$
 10. $\neg(i < (\|L_1\| - 1))$
- $\vdash y = \text{hd}(L_2)$
by Subst $((i+1) - \|L_1\|) \sim 0$ (-3)

1:equality..... NILNIL

$\vdash ((i+1) - \|L_1\|) \sim 0$

2:

8. $y = L_2[0]$
 9. $i < \|L_1\|$
 10. $\neg(i < (\|L_1\| - 1))$
- $\vdash y = \text{hd}(L_2)$

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