

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

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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.  $\neg(i < (\|L_1\| - 1))$ 
 $\vdash x = \text{last}(L_1)$ 
  by ((HypSubst (-4) 0)
      CollapseTHEN ((Auto·)
                    CollapseTHEN ((DVar 'L1')
                                   CollapseTHEN (((All Reduce)
                                                    CollapseTHEN (Auto·))))))·

```

1:

$\vdash L_1[i] = \text{last}(L_1)$

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