

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

1.  $T$  : Type
  2.  $x$  :  $T$
  3.  $y$  :  $T$
  4.  $L_1$  :  $T$  List
  5.  $L_2$  :  $T$  List
  6.  $0 < \|L_1\|$
  7.  $0 < \|L_2\|$
  8.  $x = \text{last}(L_1)$
  9.  $y = \text{hd}(L_2)$
- $\vdash x = L_1[(\|L_1\| - 1)]$   
by ((Fold 'last' 0)  
CollapseTHEN (Auto·)).