

Inference at * 2 3
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.  $i : \{0..(\|L_2\| - 1)^-\}$ 
7.  $x = L_2[i]$ 
8.  $y = L_2[(i+1)]$ 
 $\vdash \exists i : \{0..(\|L_1 @ L_2\| - 1)^-\}. (x = (L_1 @ L_2)[i] \ \& \ y = (L_1 @ L_2)[(i+1)])$ 
  by (((InstConcl [ $\|L_1\| + i$ ])
    CollapseTHEN (Auto'))·)
    CollapseTHEN (((
      RWO "select_append_back" 0)
    CollapseTHEN (((Auto')
    CollapseTHEN (((All ArithSimp)

      CollapseTHEN (Auto·))·))·))·)·

```