

Inference at \* 1 1 1  
of proof for Lemma before-hd:

1.  $T : \text{Type}$
2.  $L : T \text{ List}$
3.  $0 < \|L\|$
4.  $\text{no\_repeats}(T;L)$
5.  $x : T$
6.  $x \text{ before } \text{hd}(L) \in L$
7.  $\forall x, y:T. x \text{ before } y \in L \Rightarrow (\neg(x = y))$
8.  $\neg(x = \text{hd}(L))$
9.  $\text{hd}(L) \text{ before } x \in L$
10.  $x \text{ before } x \in L$

$\vdash \text{False}$

by InteriorProof ((FHyp (-4) [-1])  
CollapseTHEN (Auto·)).

1:

11.  $\neg(x = x)$
- $\vdash \text{False}$