

Inference at * 2 1 1 2 1 3 1
of proof for Lemma before-adjacent:

1. $T : \text{Type}$
2. $T \text{ List}$
3. $u : T$
4. $v : T \text{ List}$
5. $\forall x, y:T.$
 $\text{no_repeats}(T;v)$
 $\Rightarrow \text{adjacent}(T;v;x;y)$
 $\Rightarrow (\forall z:T. z \text{ before } y \in v \Rightarrow (z \text{ before } x \in v \vee (z = x)))$
6. $x : T$
7. $y : T$
8. $\text{no_repeats}(T;v)$
9. $\neg(u \in v)$
10. $0 < \|v\|$
11. $x = u$
12. $y = \text{hd}(v)$
13. $z : T$
14. $z \text{ before } y \in v$
15. $\text{hd}(v) \text{ before } z \in v$
16. $\neg z \text{ before } \text{hd}(v) \in v$
- $\vdash ((z = u \ \& \ (x \in v)) \vee z \text{ before } x \in v) \vee (z = x)$
by ((RevHypSubst (-5) (-1))
CollapseTHEN (Auto·)).