

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

1. T : Type
2. T List
3. u : T
4. v : T 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. $\text{no_repeats}(T;[u / v])$
9. $\text{adjacent}(T;[u / v];x;y)$
10. z : T
11. $z \text{ before } y \in [u / v]$
- $\vdash z \text{ before } x \in [u / v] \vee (z = x)$
by (((RWO "adjacent-cons" (-3))
CollapseTHEN (Auto·))·)
CollapseTHEN (D (-3)·)·

1:

9. $0 < \|v\|$
10. $x = u \ \& \ y = \text{hd}(v)$
11. z : T
12. $z \text{ before } y \in [u / v]$
- $\vdash z \text{ before } x \in [u / v] \vee (z = x)$

2:

9. $0 < \|v\|$
10. $\text{adjacent}(T;v;x;y)$
11. z : T
12. $z \text{ before } y \in [u / v]$
- $\vdash z \text{ before } x \in [u / v] \vee (z = x)$