

Inference at * 2 2
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. $\text{no_repeats}(T;[u / v])$
9. $0 < \|v\|$
10. $\text{adjacent}(T;v;x;y)$
11. $z : T$
12. $z \text{ before } y \in [u / v]$
- $\vdash z \text{ before } x \in [u / v] \vee (z = x)$
by (((RWO "no_repeats_cons" (-5))
CollapseTHEN (Auto·))·)
CollapseTHEN (((InstHyp [
 $x;y]$ 5)
CollapseTHEN (Auto·))·).

1:

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