

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

1. $T : \text{Type}$
2. $x : T$
3. $y : T$
4. $u : T$
5. $L : T \text{ List}$
6. $0 < \|L\|$
7. $(x = u \ \& \ y = \text{hd}(L)) \vee (\exists i:\{0..\|L\| - 1\}^-. (x = L[i] \ \& \ y = L[(i+1)]))$
 $\vdash \exists i:\{0..\|L\| + 1\}^-. (x = [u / L][i] \ \& \ y = [u / L][(i+1)])$
by D (-1)

1:

7. $x = u \ \& \ y = \text{hd}(L)$
 $\vdash \exists i:\{0..\|L\| + 1\}^-. (x = [u / L][i] \ \& \ y = [u / L][(i+1)])$

2:

7. $\exists i:\{0..\|L\| - 1\}^-. (x = L[i] \ \& \ y = L[(i+1)])$
 $\vdash \exists i:\{0..\|L\| + 1\}^-. (x = [u / L][i] \ \& \ y = [u / L][(i+1)])$

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