Inference at $*$ 1 1
of proof for Lemma comp_nat_ind_a:

. . . . .assertion. . . . . NILNIL

1. $P : \mathbb{N} \to \mathbb{P}\{\mathrm{k}\}$
2. $\forall i{:}\mathbb{N}.\ (\forall j{:}\mathbb{N}.\ (j < i) \Rightarrow P(j)) \Rightarrow P(i)$
3. $\mathbb{N}$

$\vdash \forall j,\ s{:}\mathbb{N}.\ (s < j) \Rightarrow P(s)$
by (% do simple nat induction%
((((BLemma 'nat_ind_a')
CollapseTHENM (RepD))·)

CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)))·)

1:

4. $s : \mathbb{N}$
5. $s < 0$

$\vdash P(s)$

2:

4. $j : \mathbb{N}^+$
5. $\forall s{:}\mathbb{N}.\ (s < (j - 1)) \Rightarrow P(s)$
6. $s : \mathbb{N}$
7. $s < j$

$\vdash P(s)$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_93324_{comp_nat_ind_a}1_1.html