Inference at $*$ 1 2 1
of proof for Lemma fincr_formation:

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

1. $i : \mathbb{N}$
2. $f : \{f \mid i{:}\{i_1{:}\mathbb{N} \mid i_1\ (\lambda i,j.\ i < j)\ i\} \rightarrow \text{if } (i =_0 0) \text{ then } \mathbb{Z} \text{ else } \{f(i \text{ - } 1)\ldots\} \text{ fi } \}$

$\vdash \forall j{:}\{k{:}\mathbb{N} \mid k < i\}\ .\ f(j) \in \mathbb{Z}$

by ((((((((AbReduce (-1))
CollapseTHEN (D 0))·)
CollapseTHENM (D (-1)))·)

CollapseTHENM (CompNatInd (-2)))·)
THENW ((Auto_aux (first_nat 1:n) ((first_nat 1:n
),(first_nat 3:n)) (first_tok :t) inil_term)))·

1:

2. $f : \{f \mid i{:}\{i_1{:}\mathbb{N} \mid i_1 < i\} \rightarrow \text{if } (i =_0 0) \text{ then } \mathbb{Z} \text{ else } \{f(i \text{ - } 1)\ldots\} \text{ fi } \}$
3. $j : \mathbb{N}$
4. $\forall j_1{:}\mathbb{N}.\ (j_1 < j) \Rightarrow (j_1 < i) \Rightarrow (f(j_1) \in \mathbb{Z})$

$\vdash (j < i) \Rightarrow (f(j) \in \mathbb{Z})$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_83200_{fincr_formation}1_2_1.html