

Inference at \* 1 2 2 2 1  
of proof for Lemma fincr\_formation:

....subterm.... T:t1:n

1.  $i : \mathbb{N}$
  2.  $f : \{f \mid i:\{i_1:\mathbb{N} \mid i_1 (\lambda i,j. i < j) i\} \rightarrow \text{if } (i =_0 0) \text{ then } \mathbb{Z} \text{ else } \{f(i - 1)\dots\} \text{ fi } \}$
  3.  $\forall j:\{k:\mathbb{N} \mid k < i\} . f(j) \in \mathbb{Z}$
  4.  $i \neq 0$
- $\vdash f(i - 1) \in \mathbb{Z}$   
by ((With  $i - 1$  (D (-2)))  
CollapseTHEN ((Auto\_aux (first\_nat 1:n) ((first\_nat 2:n  
(first\_nat 3:n)) (first\_tok :t) inil\_term))))).