

Inference at * 1
of proof for Lemma int_lt_to_int_upper:

$\vdash \forall i:\mathbb{Z}, A:\{i + 1 \dots\} \rightarrow \mathbb{P}. (\forall j:\mathbb{Z}. (i < j) \Rightarrow A(j)) \iff (\forall j:\{i + 1 \dots\}. A(j))$
by ((GenUnivCD)
CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 2:n),(first_nat
3:n)) (first_tok :t) inil_term))).

1:

1. $i : \mathbb{Z}$
 2. $A : \{i + 1 \dots\} \rightarrow \mathbb{P}$
 3. $\forall j:\mathbb{Z}. (i < j) \Rightarrow A(j)$
 4. $j : \{i + 1 \dots\}$
- $\vdash A(j)$

2:

1. $i : \mathbb{Z}$
 2. $A : \{i + 1 \dots\} \rightarrow \mathbb{P}$
 3. $\forall j:\{i + 1 \dots\}. A(j)$
 4. $j : \mathbb{Z}$
 5. $i < j$
- $\vdash A(j)$