

Inference at * 1 1
of proof for Lemma inv_image_ind.a:

1. $T : \text{Type}$
 2. $r : T \rightarrow T \rightarrow \mathbb{P}$
 3. $S : \text{Type}$
 4. $f : S \rightarrow T$
 5. $\text{WellFnd}\{i\}(T; x, y. r(x, y))$
 6. $P : S \rightarrow \mathbb{P}$
 7. $\forall j : S. (\forall k : S. r(f(k), f(j)) \Rightarrow P(k)) \Rightarrow P(j)$
 8. $n : S$
- $\vdash P(n)$
by ((% Switch quantification to T %
Assert $\forall x : T, y : S. (f(y) = x) \Rightarrow P(y)$)

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CollapseTHEN (IfLabL
['assertion', ((D 0)
CollapseTHEN (Auto_aux (first_nat 1:n
) ((first_nat 1:n), (first_nat 4:n) (first_tok :t) inil_term)))
; 'main', ((InstHyp [
f(n); n] (-1))
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 1:n), (first_nat 3:n
)) (first_tok :t) inil_term)))]).

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1:

9. $x : T$
 $\vdash \forall y : S. (f(y) = x) \Rightarrow P(y)$

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