

Inference at \* 1 2 1  
of proof for Lemma wellfounded\_functionality\_wrt\_iff:

1.  $T_1 : \text{Type}$
  2.  $T_2 : \text{Type}$
  3.  $r_1 : T_1 \rightarrow T_1 \rightarrow \mathbb{P}$
  4.  $r_2 : T_2 \rightarrow T_2 \rightarrow \mathbb{P}$
  5.  $T_1 = T_2$
  6.  $\forall x, y : T_1. r_1(x, y) \iff r_2(x, y)$
- $\vdash T_2 = T_1$   
by (Auto\_aux (first\_nat 1:n) ((first\_nat 1:n),(first\_nat 4:n)) (first\_tok :t) inil\_term)