

Inference at *
of proof for Lemma order_functionality_wrt_iff:

$\vdash \forall T:\text{Type}, R, R':(T \rightarrow T \rightarrow \mathbb{P}).$
 $(\forall x, y:T. R(x,y) \iff R'(x,y)) \Rightarrow (\text{Order}(T;x,y.R(x,y)) \iff \text{Order}(T;x,y.R'(x,y)))$
by (((RepD)
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n
)) (first_tok :t) inil_term)))·
CollapseTHEN (Unfold 'order' 0)).

1:

1. $T : \text{Type}$
 2. $R : T \rightarrow T \rightarrow \mathbb{P}$
 3. $R' : T \rightarrow T \rightarrow \mathbb{P}$
 4. $\forall x, y:T. R(x,y) \iff R'(x,y)$
- $\vdash (\text{Refl}(T;x,y.R(x,y)) \ \& \ \text{Trans}(T;x,y.R(x,y)) \ \& \ \text{AntiSym}(T;x,y.R(x,y)))$
 $\iff (\text{Refl}(T;x,y.R'(x,y)) \ \& \ \text{Trans}(T;x,y.R'(x,y)) \ \& \ \text{AntiSym}(T;x,y.R'(x,y)))$
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