

Inference at \* 1 0  
of proof for Lemma symmetrized\_preorder:

1.  $T : \text{Type}$
2.  $R : T \rightarrow T \rightarrow \mathbb{P}$
3.  $\text{Refl}(T; x, y. R(x, y))$
4.  $\text{Trans}(T; x, y. R(x, y))$
- $\vdash \text{Refl}(T; a, b. R(a, b) \ \&\ R(b, a))$   
by PERMUTE{1:n, 1:n, 2:n}

1: .....wf..... NILNIL

3.  $\forall a:T. R(a, a)$
4.  $\text{Trans}(T; x, y. R(x, y))$
5.  $a : T$
- $\vdash a \in T$

2: .....wf..... NILNIL

3.  $\forall a:T. R(a, a)$
4.  $\text{Trans}(T; x, y. R(x, y))$
- $\vdash T \in \text{Type}$

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