

Inference at *
of proof for Lemma linorder_lt_neg:

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⊢ ∀T:Type, R:(T→T→ ℙ).
  (∀x, y:T. Dec(R(x,y)))
  ⇒ Linorder(T;x,y.R(x,y))
  ⇒ (∀a, b:T. (¬strict_part(x,y.R(x,y);a;b)) ⇔ R(b,a))
  by ((((((RepD
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat
3:n)) (first_tok :t) inil_term))))).)
CollapseTHEN (ARepD ["compound";"basic"])).)

  CollapseTHEN (Unfold 'strict_part' 0)).

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1:

1. $T : \text{Type}$
2. $R : T \rightarrow T \rightarrow \mathbb{P}$
3. $\forall x, y:T. \text{Dec}(R(x,y))$
4. $\forall a:T. R(a,a)$
5. $\forall a, b, c:T. R(a,b) \Rightarrow R(b,c) \Rightarrow R(a,c)$
6. $\forall x, y:T. R(x,y) \Rightarrow R(y,x) \Rightarrow (x = y)$
7. $\forall x, y:T. R(x,y) \vee R(y,x)$
8. $a : T$
9. $b : T$
- $\vdash (\neg(R(a,b) \ \& \ (\neg R(b,a)))) \iff R(b,a)$