

closure-well-founded-total^{11,40}

$\forall T:\text{Type}, R:(T \rightarrow T \rightarrow \mathbb{P}).$
 $\text{WellFnd}\{i\}(T;x,y.R(x,y))$
 $\Rightarrow (\forall x, y:T. \text{Dec}(R(x,y)))$
 $\Rightarrow (\forall y:T. \exists L:T \text{ List}. (\forall x:T. (R(x,y) \Rightarrow (x \in L))))$
 $\Rightarrow \text{one-one}(T;T;R)$
 $\Rightarrow (\forall y, z:T. (\forall x:T. (\neg(R(x,y)) \ \& \ \neg(R(x,z)))) \Rightarrow (y = z))$
 $\Rightarrow (\forall a, b:T. ((R^*)(a,b) \vee ((R^*)(b,a)))$