

l-ordered-equality^{11,40}

$$\begin{aligned} & \forall T:\text{Type}, R:(T \rightarrow T \rightarrow \text{prop}\{i:1\}). \\ & (\forall x:T. \neg R(x,x)) \\ & \Rightarrow (\forall x,y:T. R(x,y) \Rightarrow (\neg R(y,x))) \\ & \Rightarrow (\forall as,bs:(T \text{ List}). \\ & \quad \text{l-ordered}(T; x,y.R(x,y); as) \\ & \quad \Rightarrow \text{l-ordered}(T; x,y.R(x,y); bs) \\ & \quad \Rightarrow ((as = bs) \iff (\forall x:T. (x \in as) \iff (x \in bs)))) \end{aligned}$$