

## implies-filter-equal<sup>11,40</sup>

$\forall T:\text{Type}, P:(T \rightarrow \mathbb{B}), L_1, L_2:(T \text{ List}).$   
 $\text{no\_repeats}(T;L_1)$   
 $\Rightarrow ((\forall x:T. (x \in L_2) \iff ((x \in L_1) \ \& \ (\uparrow(P(x))))))$   
 $\quad \& (\forall x, y:T. x \text{ before } y \in L_2 \Rightarrow x \text{ before } y \in L_1))$   
 $\Rightarrow (\text{filter}(P;L_1) = L_2)$