

Inference at \* 2 2  
of proof for Lemma decidable-filter:

...antecedent.... NILNIL

1.  $T$  : Type
  2.  $T$  List
  3.  $u$  :  $T$
  4.  $v$  :  $T$  List
  5.  $\forall P: (\{x:T \mid (x \in v)\} \rightarrow \mathbb{P}).$   
 $(\forall x \in v. \text{Dec}(P(x))) \Rightarrow (\exists L': T \text{ List}. (L' \subseteq v \ \& \ (\forall x:T. (x \in L') \iff ((x \in v) \ \& \ P(x))))))$
  6.  $P : \{x:T \mid (x \in [u / v])\} \rightarrow \mathbb{P}$
  7.  $\forall x \in [u / v]. \text{Dec}(P(x))$
- $\vdash \forall x \in v. \text{Dec}(P(x))$   
by (((if (((first\_nat 3:n) = 0) then (Repeat (ParallelOp ( -1).  
) else (RepeatFor (first\_nat 3:n) (ParallelOp ( -1).)))  
CollapseTHEN (((  
RWO "cons\_member" 0)  
CollapseTHEN (MaAuto.)).)).