

## **find-hd-filter**<sup>11,40</sup>

$\forall T:\text{Type}, P:(T \rightarrow \mathbb{B}), as:(T \text{ List}), d:\text{Top}.$

$(\exists a:T. ((a \in as) \ \& \ (\uparrow P(a))))$

$\Rightarrow ((\text{first } a \in as \text{ s.t. } P(a) \text{ else } d) = \text{hd}(\text{filter}(\lambda a.P(a); as)) \in T)$