

finite-set-type-cases^{11,40}

$\forall T:\text{Type}, L:((T \rightarrow \mathbb{P}) \text{ List}), P:(T \rightarrow \mathbb{P}).$
 $(\forall x:T. \text{Dec}(P(x)))$
 $\Rightarrow (\forall Q \in L. \forall x:T. \text{Dec}(Q(x)))$
 $\Rightarrow (\forall Q \in L. \text{finite-type}(\{x:T \mid Q(x)\}))$
 $\Rightarrow (\forall x:T. P(x) \Rightarrow (\exists Q \in L. Q(x)))$
 $\Rightarrow \text{finite-type}(\{x:T \mid P(x)\})$