

## last-change-pred<sup>11,40</sup>

$\forall T:\text{Type}, eq:\text{EqDecider}(T), es:\text{ES}, x:\text{Id}, e:\{e:\mathbb{E} \mid @\text{loc}(e)(x:T)\} .$   
 $(\neg(\uparrow\text{first}(e)))$   
 $\Rightarrow (\uparrow\text{discrete}(\text{loc}(e);x))$   
 $\Rightarrow ((x \text{ when } \text{pred}(e)) = (x \text{ when } e) \in T)$   
 $\Rightarrow (x \text{ changed before } \text{pred}(e) = x \text{ changed before } e \in \mathbb{B}$   
     $\& ((\uparrow x \text{ changed before } e)$   
         $\Rightarrow ((\text{last change to } x \text{ before } e) = (\text{last change to } x \text{ before } \text{pred}(e)) \in \mathbb{E}))$