

## pred-total<sup>0,22</sup>

$\forall E, X_1, X_2:\text{Type}, \text{info}:(E \rightarrow (\text{Id} \times X_1 + (\text{IdLnk} \times E) \times X_2)), \text{pred}?:(E \rightarrow (E + \text{Unit}))$ .  
WellFnd<sub>{i}</sub> $\{E; e, e'. \neg \text{first}(e') \ \& \ e = \text{pred}(e') \in E\}$   
 $\Rightarrow (\forall e:E. \neg \text{first}(e) \Rightarrow \text{loc}(\text{pred}(e)) = \text{loc}(e) \in \text{Id})$   
 $\Rightarrow (\forall e, e':E. \text{loc}(e) = \text{loc}(e') \in \text{Id} \Rightarrow \text{pred}?(e) = \text{pred}?(e') \Rightarrow e = e')$   
 $\Rightarrow (\forall e, e':E.$   
     $\text{loc}(e) = \text{loc}(e') \in \text{Id}$   
     $\Rightarrow (e \ \lambda e, e'. \neg \text{first}(e') \ \& \ e = \text{pred}(e')^{\wedge} + e')$   
         $\vee e = e'$   
         $\vee (e' \ \lambda e, e'. \neg \text{first}(e') \ \& \ e = \text{pred}(e')^{\wedge} + e)$