

## Q-R-glued-first<sup>11,40</sup>

$\forall es:ES, Q, R:(E \rightarrow E \rightarrow \mathbb{P}), A, B:\text{Type}, Ias:(\text{AbsInterface}(A) \text{ List}), Ibs:(\text{AbsInterface}(B) \text{ List}),$   
 $f:(E(\text{p-first}(Ias)) \rightarrow B).$   
 $(\forall Ia_1, Ia_2 \in Ias. Ia_1 \cap Ia_2 = 0)$   
 $\Rightarrow (\forall Ib_1, Ib_2 \in Ibs. Ib_1 \cap Ib_2 = 0)$   
 $\Rightarrow (\|Ias\| = \|Ibs\| \in \mathbb{Z})$   
 $\Rightarrow (\forall i:\{0..\|Ias\|\}. \text{Q-R-glued}(es; B; f; Ias[i]; Q; Ibs[i]; R))$   
 $\Rightarrow (\forall Ia_1, Ia_2 \in Ias.$   
 $\quad \forall e, e':E. (\uparrow(e \in_b Ia_1)) \Rightarrow (\uparrow(e' \in_b Ia_2)) \Rightarrow ((\neg(Q(e, e'))) \& (\neg(Q(e', e))))))$   
 $\Rightarrow \text{Q-R-glued}(es; B; f; \text{p-first}(Ias); Q; \text{p-first}(Ibs); R)$