

priority-select-property^{11,40}

$\forall T:\text{Type}, as:(T \text{ List}), f,g:(T \rightarrow \mathbb{B}).$
 $((\text{priority-select}(f; g; as) = (\text{inl tt}) \in (? \mathbb{B}))$
 $\iff (\exists i:\text{int_seg}(0; \|as\|). ((\uparrow(f(as[i]))) \wedge (\forall j:\text{int_seg}(0; i). \neg(\uparrow(g(as[j]))))))))$
 $\wedge ((\text{priority-select}(f; g; as) = (\text{inl ff}) \in (? \mathbb{B}))$
 $\iff (\exists i:\text{int_seg}(0; \|as\|). ((\uparrow(g(as[i]))) \wedge (\forall j:\text{int_seg}(0; (i + 1)). \neg(\uparrow(f(as[j]))))))))$
 $\wedge ((\text{priority-select}(f; g; as) = (\text{inr } \cdot) \in (? \mathbb{B}))$
 $\iff (\forall i:\text{int_seg}(0; \|as\|). (\neg(\uparrow(f(as[i]))) \wedge (\neg(\uparrow(g(as[i]))))))))$