

## R-base-recognize-realizes<sup>11,40</sup>

$\forall i:\text{Id}, ds:x:\text{Id} \text{ fp} \rightarrow \text{Type}, x:\text{Id}, k:\text{Knd}, T:\text{Type}, test:(\text{State}(ds) \rightarrow T \rightarrow \mathbb{B}).$   
 $(\neg(\uparrow x \in \text{dom}(ds)))$   
 $\Rightarrow ((\uparrow \text{isrcv}(k)) \Rightarrow (i = \text{destination}(\text{lnk}(k))))$   
 $\Rightarrow \text{Normal}(T)$   
 $\Rightarrow \text{Normal}(ds)$   
 $\Rightarrow \text{R-base-recognize}(i;ds;x;k;T;test)$   
 $\Vdash es.(@i(x:\mathbb{B}) \ \& \ (\text{state}@i \subseteq_r \text{State}(ds)) \ \& \ (\text{kindtype}(i;k) \subseteq_r T))$   
 $c \wedge \forall e@i.$   
 $(\uparrow(x \text{ when } e))$   
 $\iff (\exists e':\mathbf{E}$   
 $((((e' <_{\text{loc}} e) \ \& \ \text{kind}(e') = k \in \text{Knd})$   
 $c \wedge (\uparrow(\text{test}((\text{state when } e'), \text{val}(e'))))))$