

recognizer^{11,40}

$$\begin{aligned} & \text{recognizer}(es; i; ds; x; k; T; test) \\ \equiv_{\text{def}} & (\@i(x:\mathbb{B}) \& (\text{state}@i \subseteq_r \text{State}(ds)) \& (\text{kindtype}(i;k) \subseteq_r T)) \\ & c \wedge (\forall e@i. \\ & \quad (\uparrow(x \text{ after } e)) \\ & \quad \iff (\exists e':\mathbb{E}. ((e' \leq_{\text{loc}} e \& \text{kind}(e') = k) c \wedge (\uparrow(\text{test}(\text{state when } e'), \text{val}(e')))))) \\ & \quad \& x \text{ initially}@i = \text{ff}) \end{aligned}$$

clarification:

$$\begin{aligned} & \text{recognizer}(es; i; ds; x; k; T; test) \\ \equiv_{\text{def}} & (\text{es-dtype}(es; i; x; \mathbb{B}) \& (\text{es-state}(es; i) \subseteq_r \text{State}(ds)) \& (\text{es-kindtype}(es; i; k) \subseteq_r T)) \\ & c \wedge (\text{alle-at}(es; i; e. (\uparrow \text{es-after}(es; x; e))) \\ & \quad \iff (\exists e':\text{es-E}(es) \\ & \quad \quad ((\text{es-le}(es; e'; e) \& \text{es-kind}(es; e') = k \in \text{Knd}) \\ & \quad \quad c \wedge (\uparrow(\text{test}(\text{es-state-when}(es; e'), \text{es-val}(es; e')))))) \\ & \quad \& \text{es-initially}(es; i; x) = \text{ff} \in \mathbb{B}) \end{aligned}$$