

es-decls^{11,40}

$$\begin{aligned} & \text{es-decls}(es; i; ds; da) \\ \equiv_{\text{def}} & \text{l-all}(\text{fpf-domain}(ds); \\ & \quad x.\text{let } T = \text{fpf-ap}(ds; \text{id-deq}; x) \text{ in } \text{subtype_rel}(\text{es-vartype}(es; i; x); T)) \\ & \wedge \text{l-all}(\text{fpf-domain}(da); \\ & \quad k.\text{let } T = \text{fpf-ap}(da; \text{Kind-deq}; k) \text{ in} \\ & \quad \quad \forall e: \text{es-E}(es). \\ & \quad \quad ((\text{loc}(e) = i) \vee (\uparrow \text{es-isrcv}(es; e))) \\ & \quad \quad \Rightarrow (\text{es-kind}(es; e) = k) \\ & \quad \quad \Rightarrow \text{subtype_rel}(\text{es-valtype}(es; e); T)) \end{aligned}$$

clarification:

$$\begin{aligned} & \text{es-decls}(es; i; ds; da) \\ \equiv_{\text{def}} & \text{l-all}(\text{fpf-domain}(ds); \\ & \quad x.\text{let } T = \text{fpf-ap}(ds; \text{id-deq}; x) \text{ in } \text{subtype_rel}(\text{es-vartype}(es; i; x); T)) \\ & \wedge \text{l-all}(\text{fpf-domain}(da); \\ & \quad k.\text{let } T = \text{fpf-ap}(da; \text{Kind-deq}; k) \text{ in} \\ & \quad \quad \forall e: \text{es-E}(es). \\ & \quad \quad ((\text{es-loc}(es; e) = i \in \text{Id}) \vee (\uparrow \text{es-isrcv}(es; e))) \\ & \quad \quad \Rightarrow (\text{es-kind}(es; e) = k \in \text{Knd}) \\ & \quad \quad \Rightarrow \text{subtype_rel}(\text{es-valtype}(es; e); T)) \end{aligned}$$