

$$R[\mathbb{I}](x^{\mathbf{R}}) := \text{let } (r, s) = \text{Env}_{\mathcal{E}}[\{x^{\mathbf{R}}\} \cup \mathbb{I}, \emptyset](\mathcal{S}c(x^{\mathbf{R}})) \text{ in}$$

$$\begin{cases} \mathbf{U} & \text{if } r = \mathbf{P} \text{ and } \{x^{\mathbf{D}} | x^{\mathbf{D}} \in s\} = \emptyset \\ \{x^{\mathbf{D}} | x^{\mathbf{D}} \in s\} & \end{cases}$$

$$\text{Env}_{re}[\mathbb{I}, \mathbb{S}](S) := \begin{cases} (\mathbf{T}, \emptyset) & \text{if } S \in \mathbb{S} \text{ or } re = \emptyset \\ \text{Env}_{re}^{\mathcal{L} \cup \{\mathbf{D}\}}[\mathbb{I}, \mathbb{S}](S) & \end{cases}$$

$$\text{Env}_{re}^L[\mathbb{I}, \mathbb{S}](S) := \bigcup_{l \in \text{Max}(L)} \left(\text{Env}_{re}^{\{l' \in L | l' < l\}}[\mathbb{I}, \mathbb{S}](S) \triangleleft \text{Env}_{re}^l[\mathbb{I}, \mathbb{S}](S) \right)$$

$$\text{Env}_{re}^{\mathbf{D}}[\mathbb{I}, \mathbb{S}](S) := \begin{cases} (\mathbf{T}, \emptyset) & \text{if } [] \notin re \\ (\mathbf{T}, \mathcal{D}(S)) & \end{cases}$$

$$\text{Env}_{re}^l[\mathbb{I}, \mathbb{S}](S) := \begin{cases} (\mathbf{P}, \emptyset) & \text{if } S_l^{\blacktriangleright} \text{ contains a variable or } IS^l[\mathbb{I}](S) = \mathbf{U} \\ \bigcup_{S' \in (IS^l[\mathbb{I}](S) \cup S_l^{\blacktriangleright})} \text{Env}_{(l-1)re}[\mathbb{I}, \{S\} \cup \mathbb{S}](S') & \end{cases}$$

$$IS^l[\mathbb{I}](S) := \begin{cases} \mathbf{U} & \text{if } \exists y^{\mathbf{R}} \in (S_l^{\blacktriangleright} \setminus \mathbb{I}) \text{ s.t. } R[\mathbb{I}](y^{\mathbf{R}}) = \mathbf{U} \\ \{S' \mid y^{\mathbf{R}} \in (S_l^{\blacktriangleright} \setminus \mathbb{I}) \wedge y^{\mathbf{D}} \in R[\mathbb{I}](y^{\mathbf{R}}) \wedge y^{\mathbf{D}} \longrightarrow S'\} & \end{cases}$$