Fig. 6.6 on page 231

$$\frac{}{\rho \vdash_\Gamma \texttt{n} \Rightarrow n}\,\text{Lit} \qquad \frac{x \in \rho}{\rho \vdash_\Gamma \texttt{x} \Rightarrow \rho(x)}\,\text{Id}$$

$$\frac{}{\rho \vdash_\Gamma \texttt{true} \Rightarrow \mathit{true}}\,\text{Tr} \qquad \frac{\rho \vdash_\Gamma \texttt{e1} \Rightarrow n_1, \quad \rho \vdash_\Gamma \texttt{e2} \Rightarrow n_2}{\rho \vdash_\Gamma \texttt{e1 + e2} \Rightarrow \text{plus}(n_1, n_2)}\,\text{Add}$$

$$\frac{\rho \vdash_\Gamma \texttt{e1} \Rightarrow n_1 \quad \rho \vdash_\Gamma \texttt{e2} \Rightarrow n_2}{\rho \vdash_\Gamma \texttt{e1 - e2} \Rightarrow \text{subtr}(n_1, n_2)}\,\text{Sub} \qquad \frac{\rho \vdash_\Gamma \texttt{e1} \Rightarrow b_1 \quad \rho \vdash_\Gamma \texttt{e2} \Rightarrow b_2}{\rho \vdash_\Gamma \texttt{e1 == e2} \Rightarrow \text{equal?}(b_1, b_2)}\,\text{Eq}$$

$$\frac{\rho \vdash_\Gamma \texttt{e} \Rightarrow b}{\rho \vdash_\Gamma \texttt{!e} \Rightarrow \text{not}(b)}\,\text{Neg} \qquad \frac{\rho \vdash_\Gamma \texttt{e1} \Rightarrow n_1, \quad \rho \vdash_\Gamma \texttt{e2} \Rightarrow n_2}{\rho \vdash_\Gamma \texttt{e1 < e2} \Rightarrow \text{less\_than?}(n_1, n_2)}\,\text{LT}$$

$$\frac{\rho \vdash_\Gamma \texttt{e} \Rightarrow n}{\rho \vdash_\Gamma \texttt{x = e} \Rightarrow \rho[x \mapsto n]}\,\text{Ass} \qquad \frac{\rho \vdash_\Gamma \texttt{c1} \Rightarrow \rho', \quad \rho' \vdash_\Gamma \texttt{c2} \Rightarrow \rho''}{\rho \vdash_\Gamma \texttt{c1; c2} \Rightarrow \rho''}\,\text{Seq}$$

$$\frac{\rho \vdash_\Gamma \texttt{e} \Rightarrow \mathit{true}, \quad \rho \vdash_\Gamma \texttt{c1} \Rightarrow \rho'}{\rho \vdash_\Gamma \texttt{if (e) \{c1\} else \{c2\}} \Rightarrow \rho'}\,\text{IfT} \qquad \frac{\rho \vdash_\Gamma \texttt{e} \Rightarrow \mathit{false}, \quad \rho \vdash_\Gamma \texttt{c2} \Rightarrow \rho'}{\rho \vdash_\Gamma \texttt{if (e) \{c1\} else \{c2\}} \Rightarrow \rho'}\,\text{IfF}$$

$$\frac{\rho \vdash_\Gamma \texttt{if (e) \{c; while e \{c\}\} else \{\}} \Rightarrow \rho'}{\rho \vdash_\Gamma \texttt{while e \{c\}} \Rightarrow \rho'}\,\text{Wh} \qquad \frac{\rho(x) = \rho'(x) \text{ for all } x \text{ with } \Gamma(x) = \texttt{L}}{\rho \vdash_\Gamma \texttt{H??} \Rightarrow \rho'}\,\text{New}$$