E-machine rules

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$$(K, E, x) \mapsto_{\mathsf{E}} (K, E(x)) \quad [\textbf{Var}]$$

$$(K, E, n) \mapsto_{\mathsf{E}} (K, n) \quad [\textbf{Num}]$$

$$(K, E, \texttt{true}) \mapsto_{\mathsf{E}} (K, \texttt{true}) \quad [\textbf{True}]$$

$$(K, E, \texttt{false}) \mapsto_{\mathsf{E}} (K, \texttt{false}) \quad [\textbf{False}]$$

$$(K, E, \texttt{fun}\, f\, \texttt{(}x\texttt{:}\tau_1\texttt{)}\texttt{:}\tau_2\, \texttt{is}\, e\, \texttt{end}) \mapsto_{\mathsf{E}} (K, \texttt{fun}\, f\, \texttt{(}x\texttt{:}\tau_1\texttt{)}\texttt{:}\tau_2\, \texttt{is}\, e\, \texttt{end}[E]) \quad [\textbf{Fun}]$$

$$(K, E, o(e_1, \ldots, e_n)) \mapsto_{\mathsf{E}} (o(\Box, e_2, \ldots, e_n)[E] \triangleright K, E, e_1) \quad [\textbf{+(}]$$

$$(K, E, \texttt{if}\, e\, \texttt{then}\, e_1\, \texttt{else}\, e_2\, \texttt{fi}) \mapsto_{\mathsf{E}} (\texttt{if}\, \Box\, \texttt{then}\, e_1\, \texttt{else}\, e_2\, \texttt{fi}[E] \triangleright K, E, e) \quad [\textbf{If}]$$

$$(K, E, \texttt{apply(}e_1, e_2\texttt{)}) \mapsto_{\mathsf{E}} (\texttt{apply(}\Box, e_2\texttt{)}[E] \triangleright K, E, e_1) \quad [\textbf{Apply(}]$$

$$(o(V_1, \ldots, V_{i-1}, \Box, e_{i+1}, \ldots, e_n)[E] \triangleright K, V_i) \mapsto_{\mathsf{E}} (o(V_1, \ldots, V_i, \Box, e_{i+2}, \ldots, e_n)[E] \triangleright K, E, e_{i+1}) \quad [\textbf{+,}]$$

$$(o(V_1, \ldots, V_{n-1}, \Box)[E] \triangleright K, V_n) \mapsto_{\mathsf{E}} (K, V) \quad [\textbf{+)}]$$

$$(\texttt{if}\, \Box\, \texttt{then}\, e_1\, \texttt{else}\, e_2\, \texttt{fi}[E] \triangleright K, \texttt{true}) \mapsto_{\mathsf{E}} (K, E, e_1) \quad [\textbf{Then}]$$

$$(\texttt{if}\, \Box\, \texttt{then}\, e_1\, \texttt{else}\, e_2\, \texttt{fi}[E] \triangleright K, \texttt{false}) \mapsto_{\mathsf{E}} (K, E, e_2) \quad [\textbf{Else}]$$

$$(\texttt{apply(}\Box, e_2\texttt{)}[E] \triangleright K, V) \mapsto_{\mathsf{E}} (\texttt{apply(}V, \Box\texttt{)} \triangleright K, E, e_2) \quad [\textbf{,}]$$

$$V = \texttt{fun}\, f\, \texttt{(}x\texttt{:}\tau_1\texttt{)}\texttt{:}\tau_2\, \texttt{is}\, e\, \texttt{end}[E]: \quad (\texttt{apply(}V, \Box\texttt{)} \triangleright K, V_2) \mapsto_{\mathsf{E}} (K, E[f \mapsto V][x \mapsto V_2], e) \quad [\textbf{)}]$$