Computations

$$
\begin{aligned}
[\![\mathrm{V\ W}]\!] &= \overline{\lambda}\kappa s.\ [\![\mathrm{V}]\!]\ \underline{@}\ [\![\mathrm{W}]\!]\ \underline{@}\ {\downarrow}\kappa s \\
[\![\mathrm{V\ T}]\!] &= ??? \\
[\![\mathbf{absurd}\ \mathrm{V}]\!] &= \overline{\lambda}\kappa s.\ \mathbf{absurd}\ [\![\mathrm{V}]\!] \\
[\![\mathbf{return}\ \mathrm{V}]\!] &= \overline{\lambda}\kappa\ \overline{::}\ \kappa s.\ \kappa\ \underline{@}\ [\![\mathrm{V}]\!]\ \underline{@}\ {\downarrow}\kappa s \\
[\![\mathbf{let}\ x \leftarrow \mathrm{M}\ \mathbf{in}\ \mathrm{N}]\!] &= \overline{\lambda}\kappa\ \overline{::}\ \kappa s.\ [\![\mathrm{M}]\!]\ \overline{@}\ \left((\underline{\lambda} x\ \mathrm{ks}.\ [\![\mathrm{N}]\!]\ \overline{@}\ (\kappa\ \overline{::}\ {\uparrow}\mathrm{ks}))\ \overline{::}\ \kappa s\right) \\
[\![\mathbf{do}\ \ell\ \mathrm{V}]\!] &= \overline{\lambda}\kappa\ \overline{::}\ \chi\ \overline{::}\ \eta\ \overline{::}\ \kappa s.\ \eta\ \underline{@}\ (\ell\ \langle [\![\mathrm{V}]\!],\ \eta\ \underline{::}\ \kappa\ \underline{::}\ [] \rangle)\ \underline{@}\ {\downarrow}\kappa s \\
[\![\mathbf{handle}\ \mathrm{M}\ \mathbf{with}\ \mathrm{H}]\!] &= \overline{\lambda}\kappa\ \overline{::}\ \chi\ \overline{::}\ \kappa s.\ [\![\mathrm{M}]\!]\ \overline{@}\ ([\![\mathrm{H}^{\mathrm{ret}}]\!]\ \overline{::}\ \chi\ \overline{::}\ [\![\mathrm{H}^{\mathrm{ops}}]\!]\ \overline{::}\ \kappa\ \overline{::}\ \chi\ \overline{::}\ \kappa s),\ \text{where}
\end{aligned}
$$

$$
\begin{aligned}
[\![\mathbf{return}\ x \mapsto \mathrm{N}]\!] &= \underline{\lambda} x\ \mathrm{ks}.\ \underline{\mathbf{let}}\ (\mathrm{kx}\ \underline{::}\ \mathrm{kf}\ \underline{::}\ \mathrm{ks}') = \mathrm{ks}\ \underline{\mathbf{in}} \\
&\qquad [\![\mathrm{N}]\!]\ \overline{@}\ {\uparrow}\mathrm{ks}' \\
[\![\ell\ p\ r \mapsto \mathrm{N}_\ell]\!] &= \underline{\lambda}(\ell\ \langle p, s \rangle)\ \mathrm{ks}.\ \underline{\mathbf{let}}\ r = \mathbf{fun}\ s\ \underline{\mathbf{in}} \\
&\qquad [\![\mathrm{N}_\ell]\!]\ \overline{@}\ {\uparrow}\mathrm{ks}
\end{aligned}
$$

$$
\begin{aligned}
[\![\mathbf{raise}\ \mathrm{V}]\!] &= \overline{\lambda}\kappa\ \overline{::}\ \chi\ \overline{::}\ \eta\ \overline{::}\ \kappa s.\ \chi\ \underline{@}\ [\![\mathrm{V}]\!]\ \underline{@}\ {\downarrow}\kappa s \\
[\![\mathbf{try}\ \mathrm{M}\ \mathbf{with}\ \mathrm{H}]\!] &= \overline{\lambda}(\kappa\ \overline{::}\ \chi\ \overline{::}\ \eta\ \overline{::}\ \kappa s\ \mathbf{as}\ \kappa s').\ [\![\mathrm{M}]\!]\ \overline{@}\ (\mathrm{K}_{\mathrm{ret}}\ \overline{::}\ [\![\mathrm{H}]\!]\ \overline{::}\ \eta\ \overline{::}\ \kappa s'),\ \text{where}
\end{aligned}
$$

$$
\begin{aligned}
\mathrm{K}_{\mathrm{ret}} &= \underline{\lambda} x\ \mathrm{ks}.\ \underline{\mathbf{let}}\ (\mathrm{kx}\ \underline{::}\ \mathrm{kf}\ \underline{::}\ k\ \underline{::}\ \mathrm{ks}') = \mathrm{ks}\ \underline{\mathbf{in}} \\
&\qquad k\ \underline{@}\ x\ \underline{@}\ \mathrm{ks}' \\
[\![e \mapsto \mathrm{N}]\!] &= \underline{\lambda} e\ \mathrm{ks}.\ [\![\mathrm{N}]\!]\ \overline{@}\ {\uparrow}\mathrm{ks}
\end{aligned}
$$

Top level program

$$
\top[\![\mathrm{M}]\!] = [\![\mathrm{M}]\!]\ \overline{@}\ ((\underline{\lambda} x\ \mathrm{ks}.\ x)\ \overline{::}\ (\underline{\lambda} z\ \mathrm{ks}.\ \mathbf{absurd}\ z)\ \overline{::}\ (\underline{\lambda} z\ \mathrm{ks}.\ \mathbf{absurd}\ z)\ \overline{::}\ {\uparrow}[])
$$