$$\frac{}{\texttt{Xi} : \{{}^{m}_{\texttt{i}}\}}\ \text{E1} \qquad \frac{}{\texttt{e} : \{{}^{w}_{\texttt{i}} \mid \texttt{Xi} \in \mathrm{var}(\texttt{e})\}}\ \text{E2} \qquad \star \in \{+,-\}\ \frac{\texttt{Xi} : V_1 \quad \texttt{Xj} : V_2}{\texttt{Xi}\star\texttt{Xj} : pV_1 \oplus V_2}\ \text{E3}$$

$$\star \in \{+,-\}\ \frac{\texttt{Xi} : V_1 \quad \texttt{Xj} : V_2}{\texttt{Xi}\star\texttt{Xj} : V_1 \oplus pV_2}\ \text{E4} \qquad \frac{\texttt{e} : V}{\texttt{Xj = e} : \mathbf{1} \overset{\texttt{j}}{\leftarrow} V}\ \text{A} \qquad \frac{\texttt{C1} : M_1 \quad \texttt{C2} : M_2}{\texttt{C1; C2} : M_1 \otimes M_2}\ \text{C}$$

$$\frac{\texttt{C1} : M_1 \quad \texttt{C2} : M_2}{\textbf{if } \texttt{b} \textbf{ then } \texttt{C1} \textbf{ else } \texttt{C2} : M_1 \oplus M_2}\ \text{I}$$

$$\forall i, M^*_{ii} = m\ \frac{\texttt{C} : M}{\textbf{loop } \texttt{X}_\ell\texttt{\{C\}} : M^* \oplus \{{}^{p}_{\ell} \to j \mid \exists i, M^*_{ij} = p\}}\ \text{L}$$

$$\forall i, M^*_{ii} = m \text{ and } \forall i, j, M^*_{ij} \neq p\ \frac{\texttt{C} : M}{\textbf{while } \texttt{b} \textbf{ do } \texttt{\{C\}} : M^*}\ \text{W}$$

Figure 1: *mwp*-bounds flow analysis inference rules

I Introduction

I.1 *mwp*-Bounds Analysis

Blah [1]

II References

[1] Neil D. Jones and Lars Kristiansen. “A flow calculus of *mwp*-bounds for complexity analysis”. In: *ACM Transactions on Computational Logic* 10.4 (Aug. 2009), 28:1–28:41. DOI: `10.1145/1555746.1555752`.